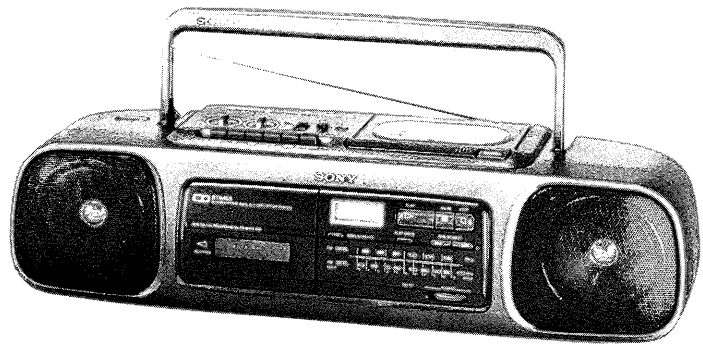
CFD-57

SERVICE MANUAL

Canadian Model



This manual contains only the points which differ from CFD-55. Refer to the CFD-55 Service Manual (9-956-551-11) for related information not contained in this manual.

: changed portion

: deleted portion

: added portion

Model Name Using Similar Mechanism	CD Section	CFD-55
	Tape Section	CFD-55
Optical Pickup Type		KSM-2101BAN
Tape Transport Mechanism Type		MF-55-64

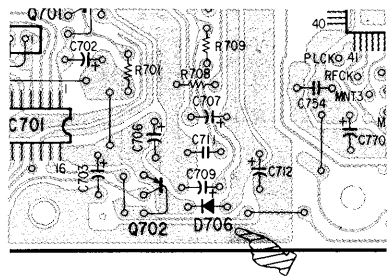
SECTION 6
DIAGRAMS

• Semiconductor Location
(SERVICE MANUAL See page 16)

Ref. No.	Location
D706	F-4

6-1. PRINTED WIRING BOARD
(SERVICE MANUAL See page 16~18)

【CD MAIN BOARD】
(Location E, F-3, 4)

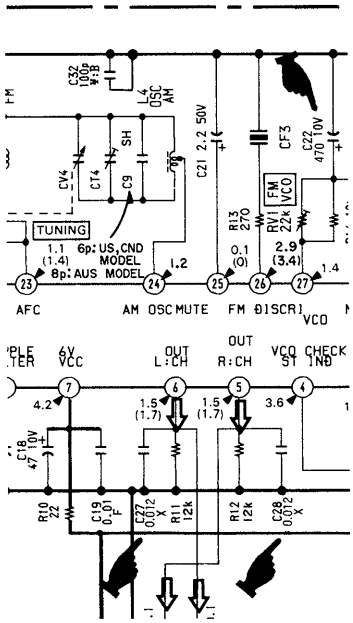


CD RADIO CASSETE-CORDER

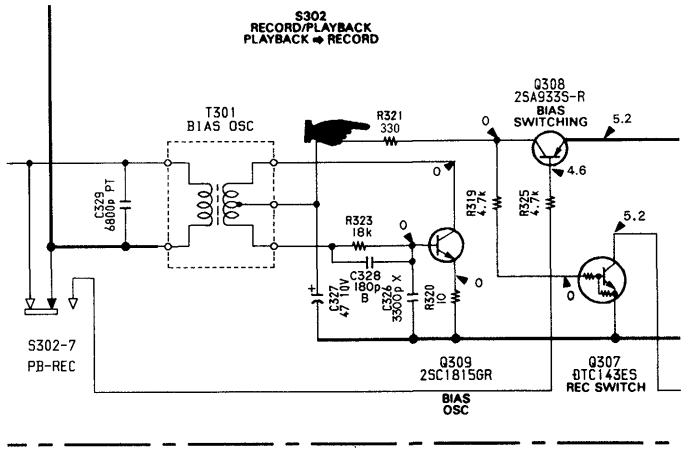
SONY®

6-2. SCHEMATIC DIAGRAM –Tuner/Audio Section–
(SERVICE MANUAL See page 19~22)

[TUNER BOARD]
(Location A~D-9, 10)

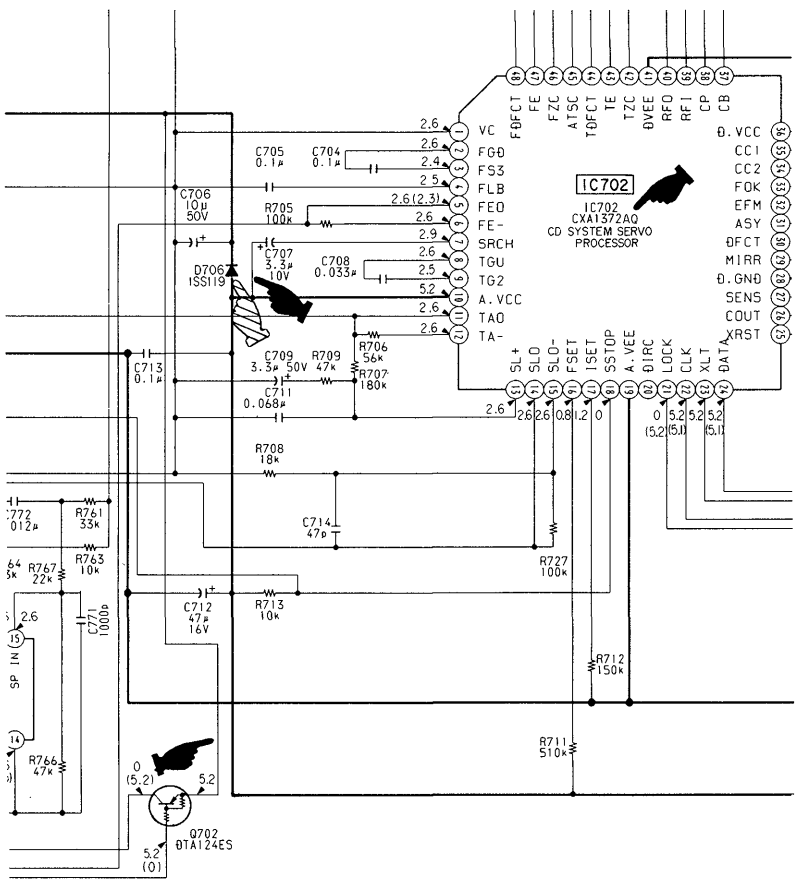


[AUDIO BOARD]
(Location M~0-4~7)



6-3. SCHEMATIC DIAGRAM –CD Section–
(SERVICE MANUAL See page 23~26)

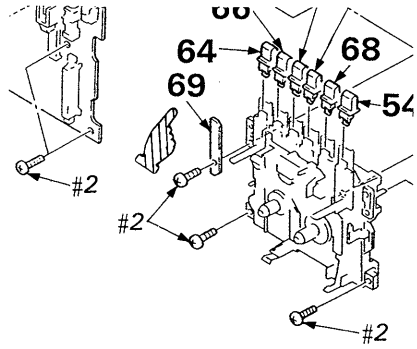
[CD MAIN BOARD]
(Location H~M-8~12)



SECTION 7
EXPLODED VIEWS

• DIFFERENCE PARTS

7-2. PC BOARDS SECTION (SERVICE MANUAL See page 28)

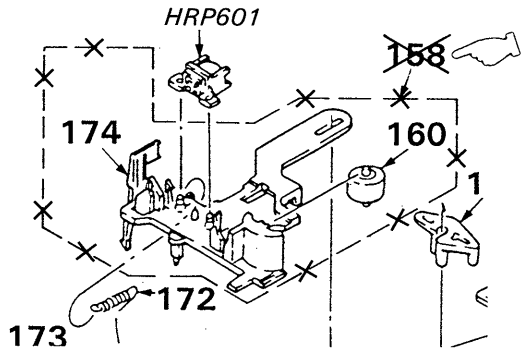


Ref.No.	Part No.	Description	Remark
* 51	A-3275-249-A	AUDIO BOARD, COMPLETE	
* 69	1-641-328-11	A BOARD	

7-3. CD SECTION (SERVICE MANUAL See page 29)

Ref.No.	Part No.	Description	Remark
106	3-368-525-51	CABINET (UPPER)	

7-4. MD SECTION-1 (MF-55-64) (SERVICE MANUAL See page 30)



Ref.No.	Part No.	Description	Remark
154	4-934-511-11	LEVER (S), REC	
163	3-343-381-01	SPRING, COMPRESSION	
164	X-4920-350-3	GEAR (S) ASSY, T REEL	
~~158~~	~~X-4920-345-1~~	~~BASE (S) ASSY, HEAD~~	

SECTION 8
ELECTRICAL PARTS LIST

• DIFFERENCE PARTS

	Ref.No.	Part No.	Description	Remark
*		A-3275-249-A	AUDIO BOARD, COMPLETE	SERVICE MANUAL See page 33
	L301	1-410-324-11	INDUCTOR 4.7uH	SERVICE MANUAL See page 34
	L302	1-410-324-11	INDUCTOR 4.7uH	
	L303	1-410-324-11	INDUCTOR 4.7uH	
	L304	1-410-324-11	INDUCTOR 4.7uH	
	L305	1-410-324-11	INDUCTOR 4.7uH	
	R321	1-249-411-11	CARBON 330 5% 1/4W	SERVICE MANUAL See page 35
*	CN707	1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P	SERVICE MANUAL See page 36
	C718	1-162-306-11	CERAMIC 0.01uF 20% 16V	
	C722	1-162-306-11	CERAMIC 0.01uF 20% 16V	
	C723	1-162-306-11	CERAMIC 0.01uF 20% 16V	
	C730	1-162-306-11	CERAMIC 0.01uF 20% 16V	
	C744	1-162-306-11	CERAMIC 0.01uF 20% 16V	
	C756	1-162-306-11	CERAMIC 0.01uF 20% 16V	
	C803	1-162-306-11	CERAMIC 0.01uF 20% 16V	
	C806	1-162-306-11	CERAMIC 0.01uF 20% 16V	
	D706	8-719-911-19	DIODE 1SS119	SERVICE MANUAL See page 37
	IC702	8-752-053-73	IC CXA1372AQ	
	C3	1-162-306-11	CERAMIC 0.01uF 20% 16V	SERVICE MANUAL See page 38
	C22	1-124-472-11	ELECT 470uF 20% 10V	
	C27	1-161-052-00	CERAMIC 0.012uF 10% 25V	
	C28	1-161-052-00	CERAMIC 0.012uF 10% 25V	

ACCESSORIES & PACKING MATERIALS

****

	3-382-945-01	INDIVIDUAL CARTON	SERVICE MANUAL See page 39
	3-753-557-61	MANUAL, INSTRUCTION (ENGLISH, FRENCH)	

9-957-355-11

Sony Corporation
General Audio Group

English
92H1806-1
Printed in Japan
©1992.8
Published by Customer Relations and Service Group

CFD-55L

SERVICE MANUAL

AEP Model
UK Model

SPECIFICATIONS

CD player section

System: Compact disc digital audio system
Laser diode properies: Material: GaAlAs
Wavelength 780 nm
Emission duration: Continuous
Laser output: less than 44.6μW
This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block.
Frequency response: 20—20,000 Hz $^{+1}_{-15}$ dB
Wow and flutter: Below measurable limit

Radio section

Frequency range

	FM	MW	LW
AEP, UK model	87.6-107 MHz	531-1602 kHz	153-279 kHz
Italian model	87.5-108 MHz	526.5-1606.5 kHz	148.5-283.5 kHz

Tape recorder section and general

Recording system: 4-track 2-channel stereo
Frequency response: 70—10,000 Hz
(with TYPE I (NORMAL) cassette)
Speaker: Full-range speakers: 10 cm dia., cone type
Maximum power output
4.6 W (2.3 W + 2.3 W)
Input: Mixing microphone input jack (minijack)
Sensitivity 2.5 mV
For low impedance microphone
Output: Headphone jack (stereo minijack)
For 16—68 ohms impedance headphones

Power requirements

AEP, Italian model: 220 – 230 V AC, 50 Hz
UK model: 240 V AC, 50 Hz
DC 9V, 6 R20 (size D) batteries

Model Name Using	CD Section	CFD-501
Similar Mechanism	Tape Section	CFS-204
Optical Pickup Type		KSM-2101BAN
Tape Transport Mechanism Type		MF-55-64

Power consumption

UK model: 25 W
AEP, Italian model: 20 W

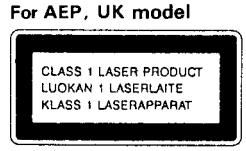
Battery life (hours)

	FM recording	Playback	CD playing
Sony SUM-1 (NS)	approx. 15	approx. 10	approx. 4
Sony Alkaline AM1 (N)	approx. 25	approx. 15	approx. 8

Dimensions: 590 × 154 × 204 mm (w/h/d)
(23 1/4 × 6 1/8 × 8 1/8 inches)
incl. projecting parts and controls
Weight: Approx. 4.8 kg. incl. batteries
(Approx. 10 lb 9 oz)
Supplied accessories: AC power cord (1)

Design and specifications subject to change without notice.

For AEP, UK model



This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.

MICROFILM

MC-Service

CD RADIO CASSETTE-CORDER

SONY

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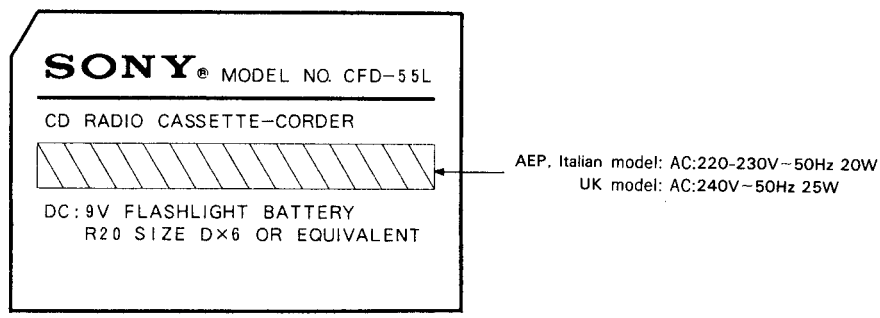
—MODEL IDENTIFICATION—

(Specification label)


SONY® MODEL NO. CFD-55L
CD RADIO CASSETTE-CORDER
DC: 9V FLASHLIGHT BATTERY
R20 SIZE D×6 OR EQUIVALENT
AEP, Italian model: AC:220-230V~50Hz 20W
UK model: AC:240V~50Hz 25W

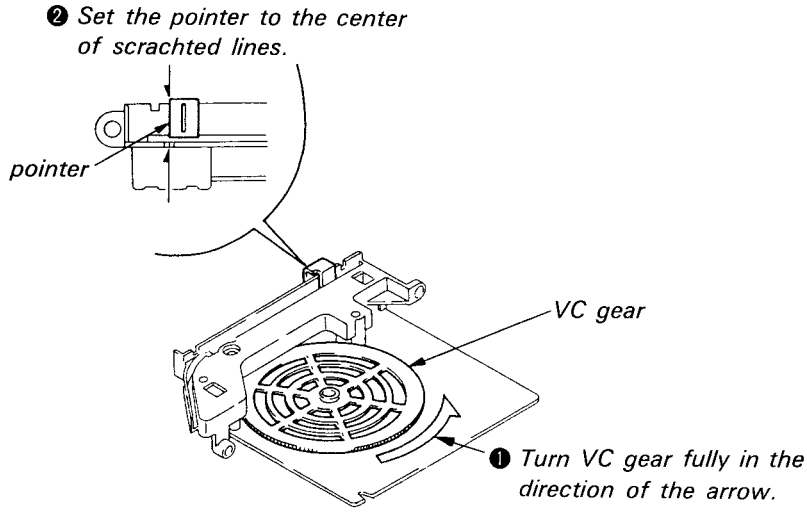
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

DIAL POINTER SETTING



SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

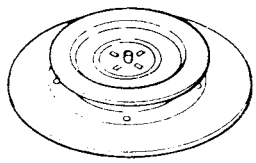
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25 cm away from the objective lens.

CHUCK PLATE JIG ON REPAIRING

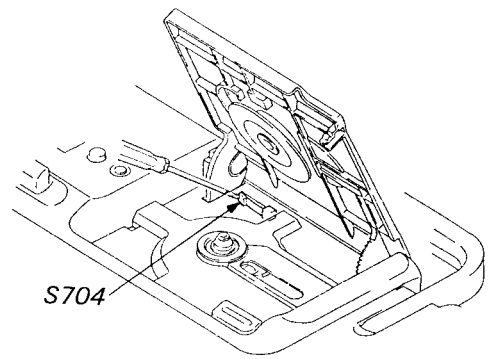
On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

- Code number of Chuck Plate Jig: X-4918-255-1



LASER DIODE AND FOCUS SEARCH OPERATION CHECK

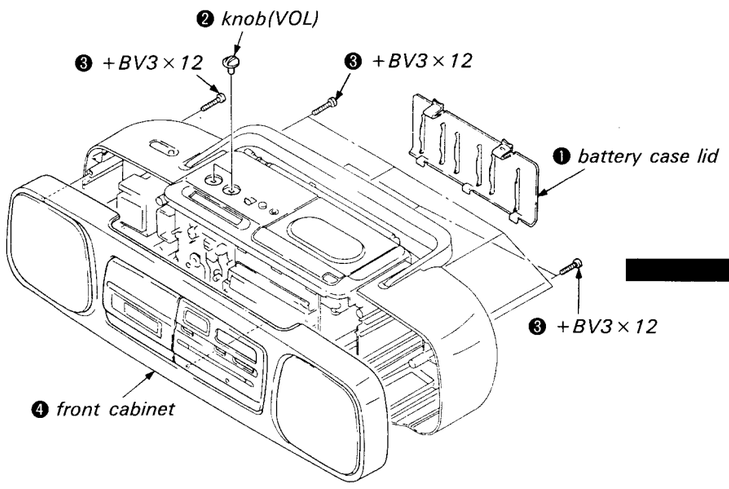
1. Make Function switch to CD position with no disc inserted.
2. Open the lid for CD.
3. Turn on S704 as following figure.
4. Press ▶ key.
5. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down once for the focus serarch.



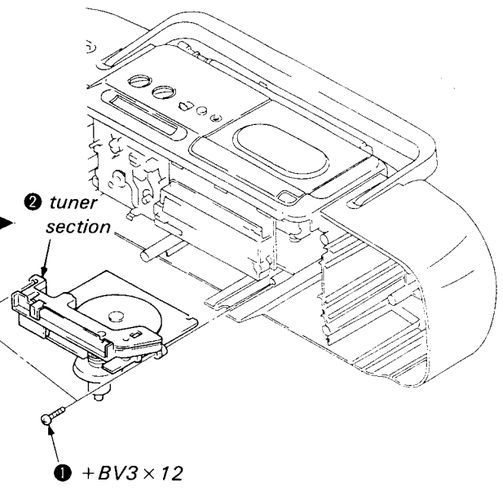
MC-Service

Note : Follow the disassembly procedure in the numerical order given.

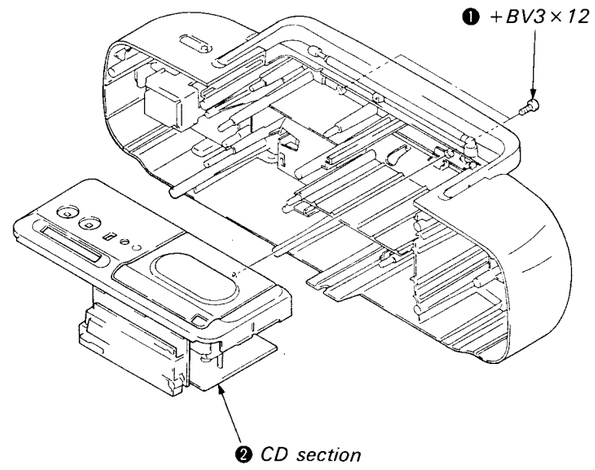
FRONT CABINET



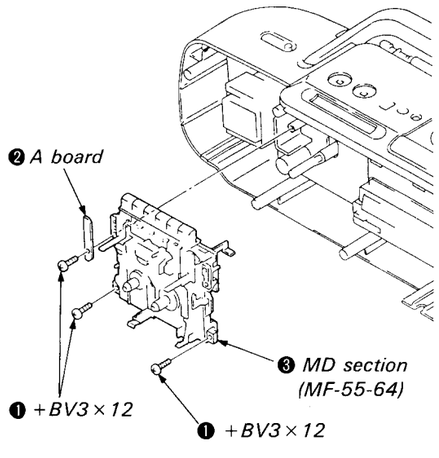
TUNER SECTION



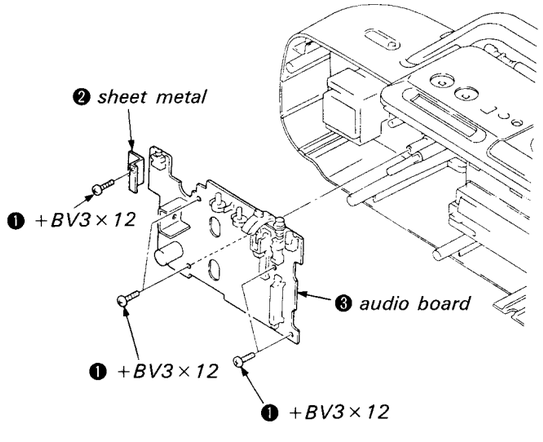
CD SECTION



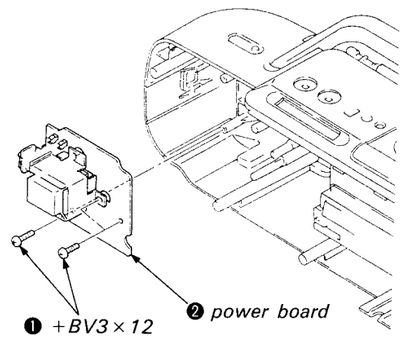
MD SECTION



AUDIO BOARD



POWER BOARD



SECTION 3
PIN DESCRIPTION

● IC801 CXP5084H-636Q(MICRO COMPUTER)
The CXP5084H-636Q function are described below.

• Description

Pin No.	Name	I/O	Description
1	——	——	
2	XLT	O	System latch
3	GFS	I	
4	SCOR	I	
5	CLK	I/O	System clock
6	DATA	I/O	
7	SENSE	I/O	
8	SQSO	I	SUB Q
9	K-PB	I/O	PLAY key input
10	K-STOP	I/O	STOP key input
11	K-FR	I/O	⏮, ◁◁ key input
12	K-FF	I/O	⏭, ▷▷ key input
13	PAUSE	I/O	⏸ key input
14	P-MODE	I/O	PLAY MODE key input
15	DISPLAY	I/O	Remain
16	——	——	
17	$\overline{DOOR}$	I/O	CD holder open/close detection
18	$\overline{CD}$	I/O	Low at Function CD
19	$\overline{REC}$	I/O	Low at Rec
20	$\overline{HI\ SPEED}$	I/O	Low at High Speed Rec
21	LD ON	I/O	Laser ON, BTL Mute
22	FOK	I/O	Focus OK input ⎍
23	LATCH	I/O	DF latch output
24	$\overline{TEST}$	I/O	
25	GND	——	
26	NC	——	

Pin No.	Name	I/O	Description
27	——	——	
28	XRST	O	System reset
29	MUTE	O	Mute at High,digital and analog mute
30 | 35	——	——	
36 | 50	S14 | S0	O	LCD segment pin (15 pcs)
51 | 54	COM3 | COM0	O	LCD common pin 1/4 duty
55 | 57	V_{LC1} | V_{LC3}	——	LCD bias supply pin 1/3 Bias
58	V_{DD}	——	Data hold voltage 3.5—5.5V at STOP
59	V_L	C	Cut-off output
60	OSC	——	Clock output
61	OSC	——	Clock input
62	RST	I/O	Reset pin
63	WP	I	On at Wakeup "High"
64	REMOTE	I	

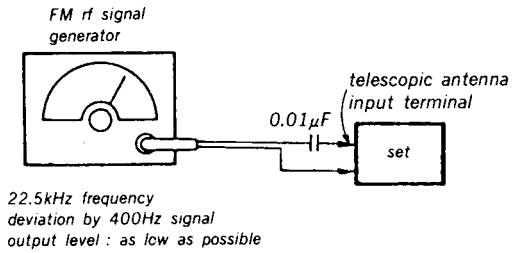
MC-Service

5-2. RADIO SECTION

• FM Section

Setting :

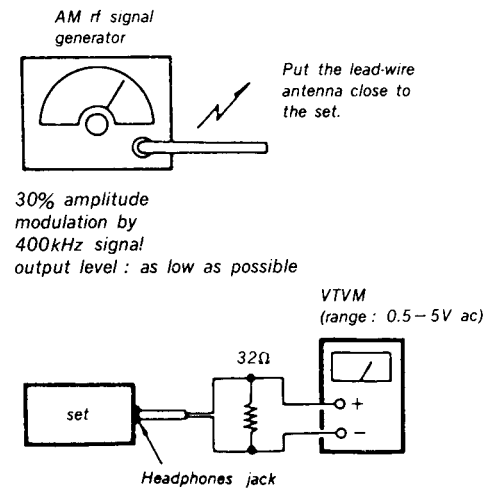
FUNCTION switch : BAND
BAND switch : FM



• AM Section

Setting :

FUNCTION switch : BAND
BAND switch : MW, LW



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.
- Remove telescopic antenna in FM section adjustments.

IT : Italian model

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L2	CT2
87.0MHz(AEP,UK) 87.35MHz(IT)	108.3MHz(AEP,UK) 108.25MHz(IT)

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	CT1
87.0MHz(AEP,UK) 87.35MHz(IT)	108.3MHz(AEP,UK) 108.25MHz(IT)

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4	CT4
520kHz(AEP,UK) 516kHz(IT)	1,680kHz(AEP,UK) 1,630kHz(IT)

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	CT3
620kHz	1,400kHz

LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L8	CT8
145kHz(AEP,UK) 140kHz(IT)	300kHz(AEP,UK) 293kHz(IT)

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L7	CT7
145kHz(AEP,UK) 140kHz(IT)	300kHz(AEP,UK) 293kHz(IT)

Adjustment Location see page11.

SECTION 4
MECHANICAL ADJUSTMENT

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback head — pinch roller
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be perfomed with the rated power supply voltage unless otherwise noted.
6. Power supply voltage: 9V dc.

Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	20−60g•cm (0.28−0.83 oz•inch)
Forward back tension	CQ-102C	2−6g•cm (0.028−0.083 oz•inch)
Fast Forward	CQ-201B	more than 45g•cm (more than 0.62 oz•inch)
Rewind	CQ-201B	more than 45g•cm (more than 0.62 oz•inch)

Tape Tension Measurement

Mode	Meter	Meter Reading
Forward	CQ-403A	more than 70g (more than 2.47 oz)
Reverse	CQ-403R	

SECTION 5
ELECTRICAL ADJUSTMENT

5-1. TAPE RECORDER SECTION

Standard Output Level

Output terminal	SP OUT	HP OUT
load impedance	3.2Ω	32Ω
output signal level	0.775V (0dB)	0.25V (−10dB)

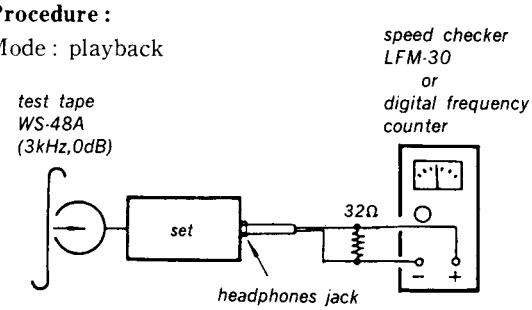
Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	tape speed adjustment

Tape Speed Adjustment

Procedure:

Mode: playback

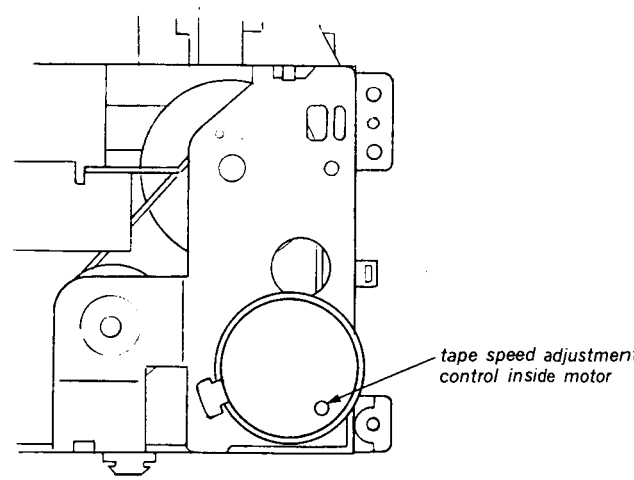


Adjustment Value:

Speed checker	Digital frequency counter
−1.5% to +1.5%	2,955 to 3,045 Hz

Frequency difference between the beginning and the end of the tape should be within 1.5% (45Hz).

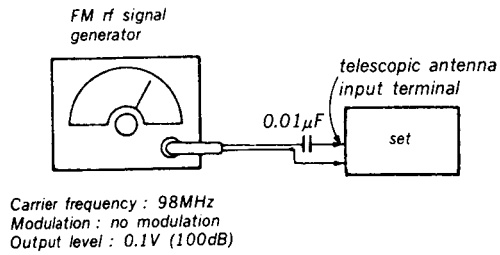
Adjustment Location:



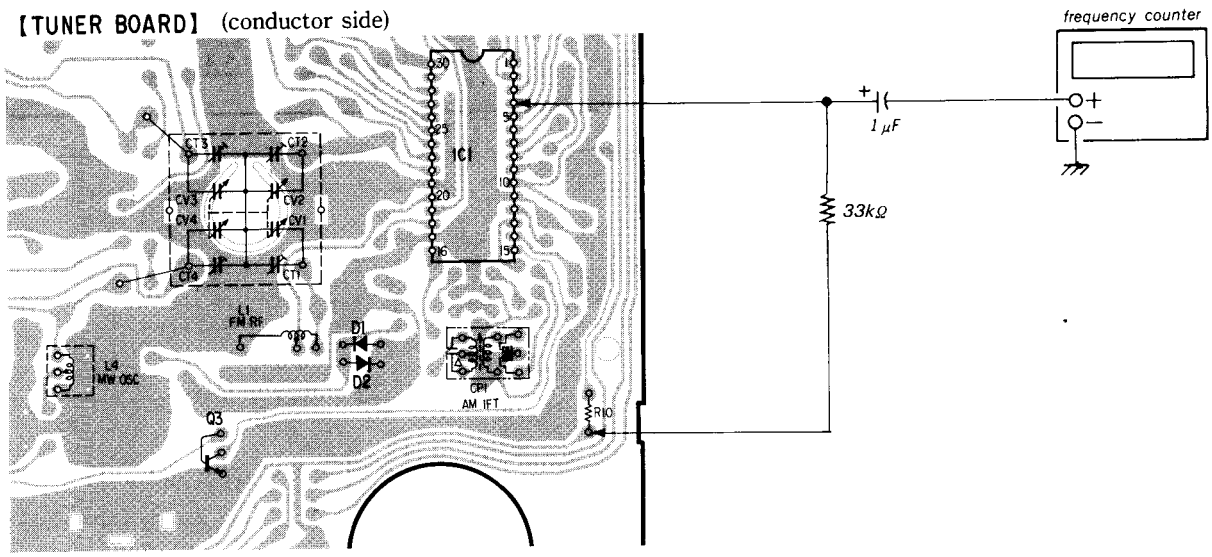
MC-Service

VCO Adjustment

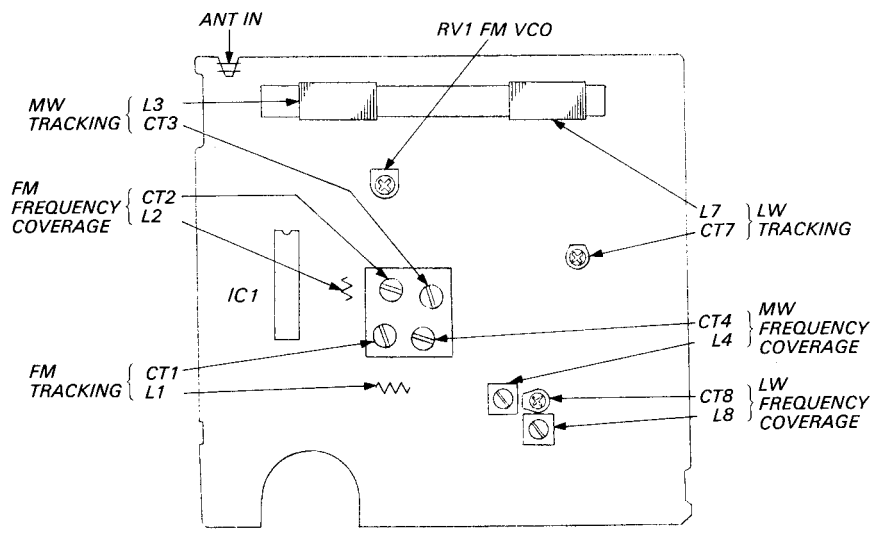
Procedure :



1. Connect frequency counter as shown below.
2. Tune the set to 98MHz.
3. Adjust RV1 for 76kHz±0.3kHz reading on the frequency counter.



Adjustment Location : TUNER board (component side)



5-3. CD SECTION

Notes on Adjustment

1. Perform adjustment in service mode.
   After adjustment, be sure to release service mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18, Part No. 3-702-101-01) only when so indicated.

Before Adjustment

Put the set into service mode and perform the following checks. Repair if there are any problems.

- **Sled Motor Check**

1. Press ▶ key, then press ■ key.
2. Press ▶▶| , |◀◀ keys and comfirm that the FOP moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises.
   ▶▶| : FOP moves to the outer circumference
   |◀◀ : FOP moves to the inner ciecumference

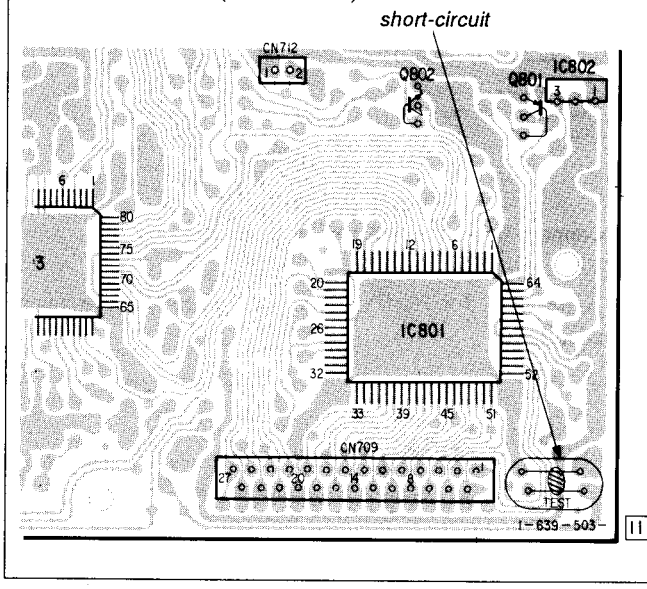
- **Focus Search Check**

1. Press ▶ key. (Focus search operation is performed continuously.)
2. Look at the FOP objective lens and confirm that it moves up and down smoothly, with no catching or abnormal noises.
3. Press ■ key.
   Confirm that focus search operation stops. If it does not, press ■ key again longer.

How to Put the Set into Service Mode

1. Short-circuit following portions on the CD MAIN board
2. Turn the POWER on.
3. Remove the short-circuit position.

CONTROL BOARD (conductor side)

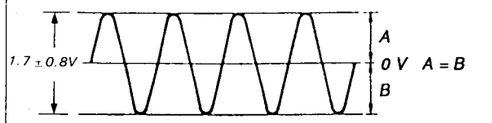


E. F Balance Adjustment

This adjustment is to be done when the optical block is replaced.

Adjustment Procedure:

1. Connect the oscilloscope between IC701 pins ⑪ and ⑤.
2. Put the set into service mode. (See page 12)
3. Press the ▶▶| and |◀◀ keys to move the FOP to the center.
4. Insert disc (YEDS-18) and press ▶ key.
5. Adjust RV701 so that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.
6. Release servise mode after adjustment is completed.

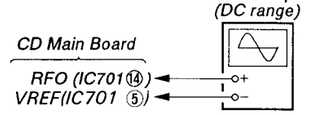


VOLT/DIV: 1 V
TIME/DIV: 1 ms

Focus Bias Adjustment

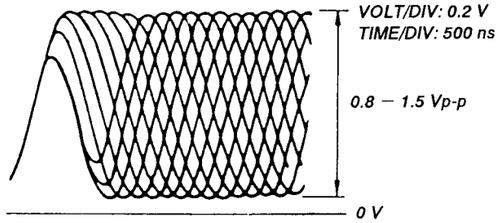
This adjustment is to be done when the optical block replaced.

Adjustment Procedure:



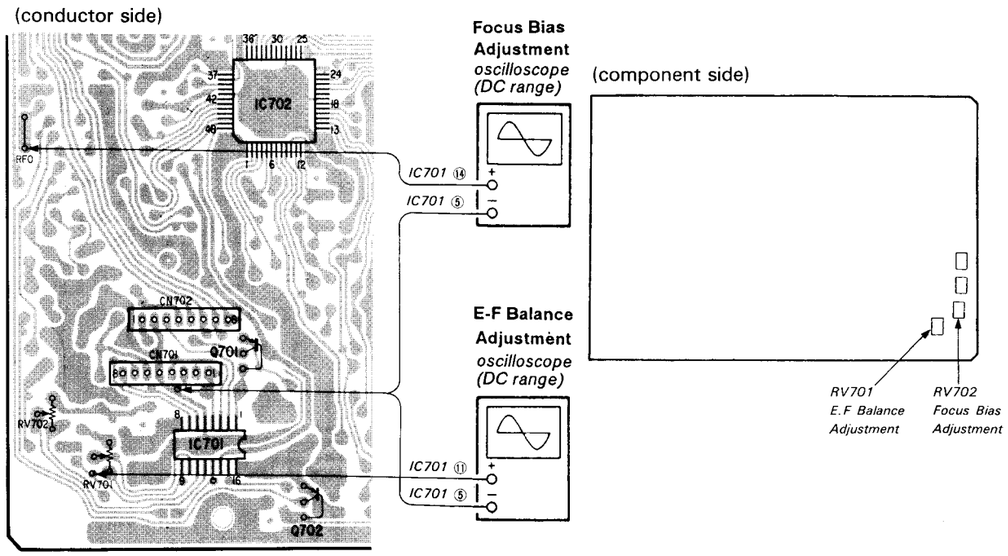
1. Connect the oscilloscope between IC701 pins ⑭ and ⑤.
2. Put the set into service mode. (See page 12)
3. Press the ▶▶| and |◀◀ keys to move the FOP to the center. (Move the FOP to the music area on the disc to enable easy visibility of the eye pattern.)
4. Insert disc (YEDS-18) and press ▶ key.
5. Adjust RV702 so that the oscilloscope waveform os as shown in the figure below (eye pattern).
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.
6. Release service mode after adjustment is completed.

- RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensivity.

Adjustment Location: CD MAIN Board



Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.
However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.
However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

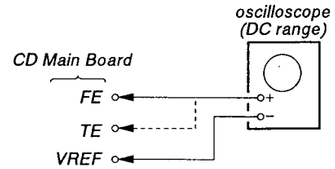
Symptoms / Tracking	Gain	Focus
• The time until music starts becomes longer for STOP ➡ ▶ PLAY or automatic selection (|◀◀ , ▶▶| buttons pressed). (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP ➡ ▶ PLAY or automatic selection (|◀◀ , ▶▶| buttons pressed).	—	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	—	low
• More poise during 2-axis device operation.	high	high

The following is a simple adjustment method.

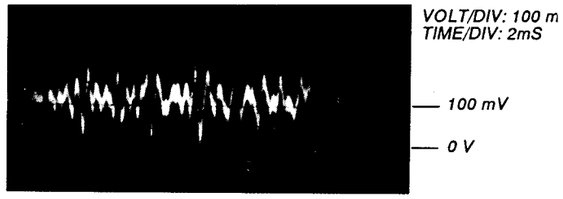
– Simple Adjustment –

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:

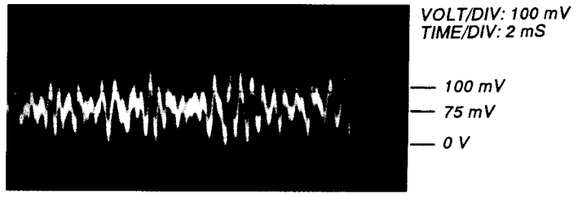


1. Keep the set horizontal.
   (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Insert disc (YEDS-18) and press ▶ PLAY button.
3. Connect the oscilloscope between IC701 pins ⑬ and ⑧.
4. Adjsutment RV703 so that the waveform is as shown in the figure below. (focus gain adjustment)



- Incorrent Examples (DC level changes more than on adjusted waveform)

low focus gain

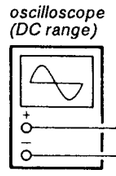


5. Connect the o
6. Adjust RV704
   below. (trackin

- Incorrect Exan

high tracking
(higher funda

Adjustment Loca



〔5-4. REFERENCE〕

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.
However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.
However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

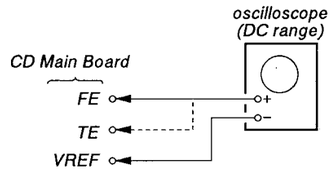
Symptoms / Tracking	Gain	Focus
• The time until music starts becomes longer for STOP ➡ ▶ PLAY or automatic selection (⏮ , ⏭ buttons pressed). (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP ➡ ▶ PLAY or automatic selection (⏮ , ⏭ buttons pressed).	—	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	—	low
• More poise during 2-axis device operation.	high	high

The following is a simple adjustment method.

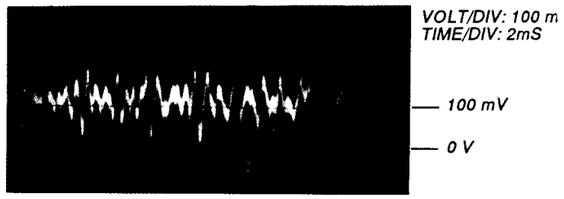
– Simple Adjustment –

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:

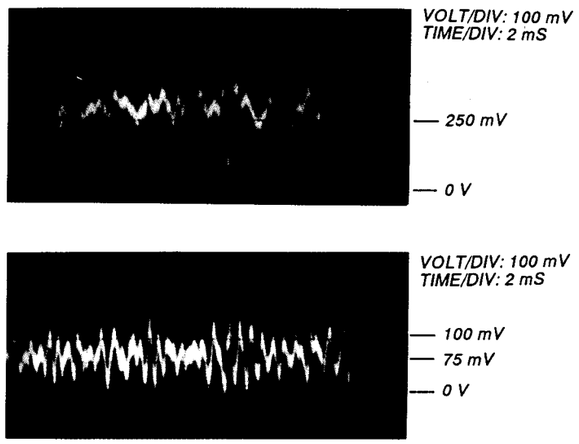


1. Keep the set horizontal.
   (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Insert disc (YEDS-18) and press ▶ PLAY button.
3. Connect the oscilloscope between IC701 pins ⑬ and ⑧.
4. Adjsutment RV703 so that the waveform is as shown in the figure below. (focus gain adjustment)



- Incorrent Examples (DC level changes more than on adjusted waveform)

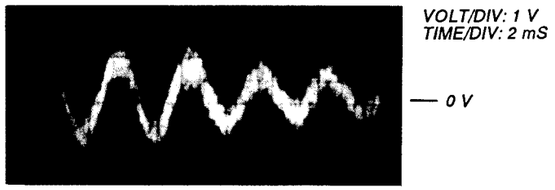
low focus gain



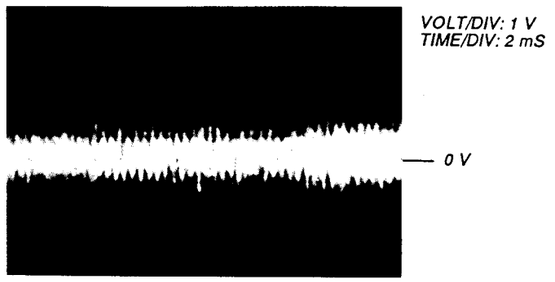
5. Connect the oscilloscope between IC701 pins ⑪ and ⑧.
6. Adjust RV704 so that the waveform is as shown in the figure below. (tracking gain adjustment)

- Incorrect Examples (fundamental wave appears)

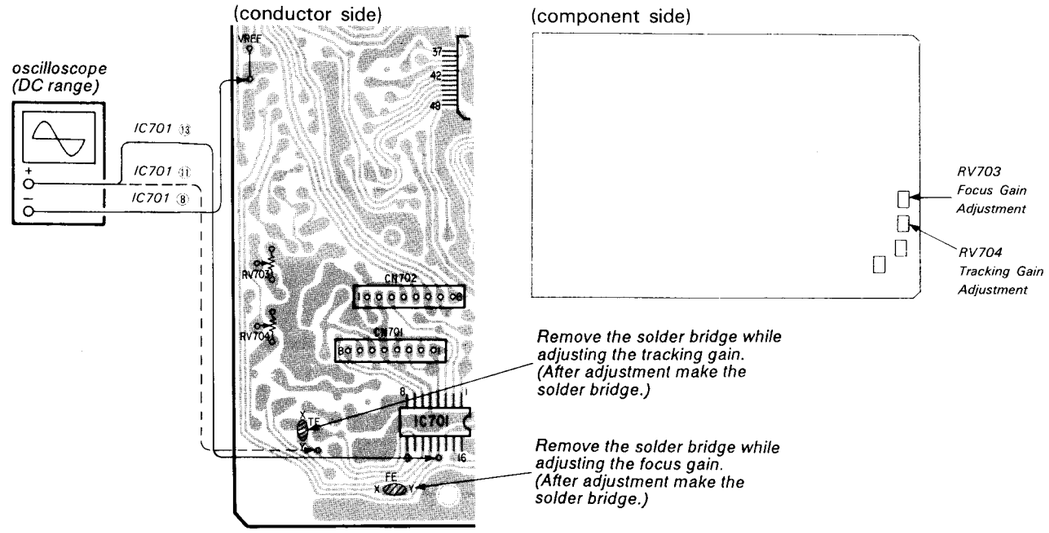
low tracking gain

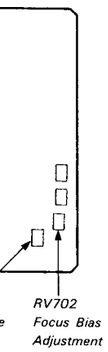


high tracking gain
(higher fundamental wave than for low gain)



Adjustment Location: CD MAIN Board





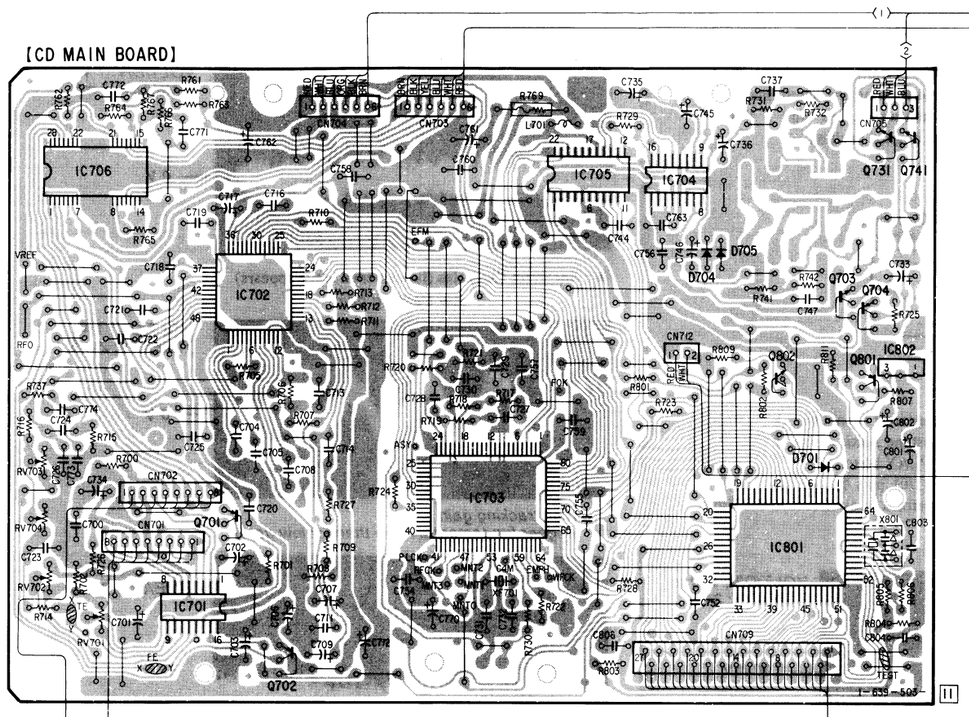
SECTION 6
DIAGRAMS

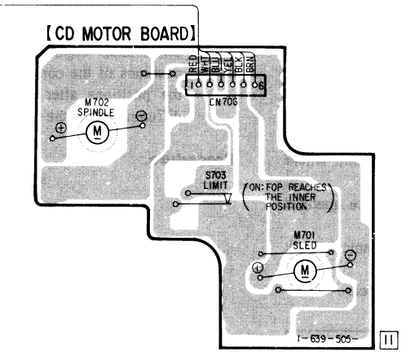
6-1. PRINTED WIRING BOARDS

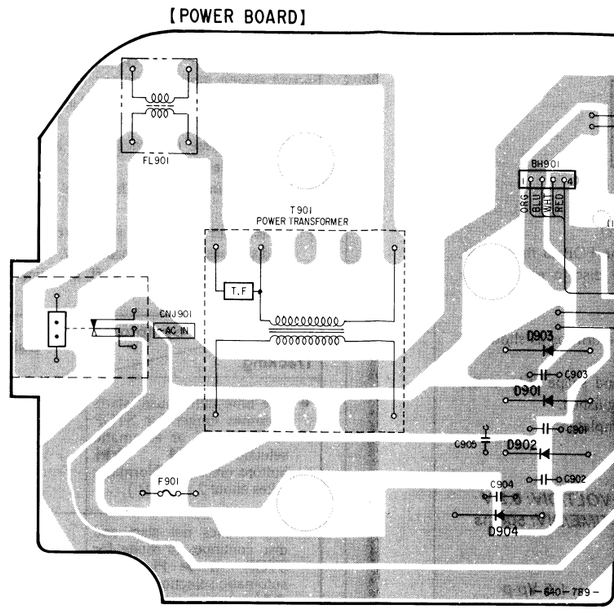
• See page 25,26 for Circuit Boards Location and Semiconductor Lead Layouts.

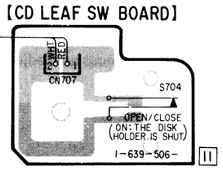
• Semiconductor Location

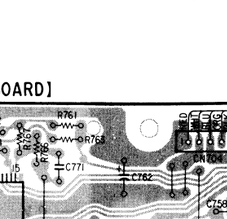
Ref. No.	Location	Ref. No.	Location
D1	D-21	Q1	B-21
D2	D-21	Q3	E-20
D5	B-18	Q4	B-18
D6	B-18	Q5	B-18
D7	B-18	Q101	H-18
D8	B-18	Q102	I-18
D11	E-20	Q201	I-18
D301	I-17	Q202	I-18
D302	I-17	Q301	K-22
D303	I-17	Q302	J-22
D304	G-17	Q303	H-17
D305	K-22	Q304	J-19
D306	K-22	Q305	H-17
D307	K-20	Q306	G-17
D308	J-20	Q307	G-18
D309	J-20	Q308	G-19
D310	J-20	Q309	G-18
D701	D-7	Q311	I-17
D704	C-6	Q312	I-17
D705	C-6	Q313	H-17
D901	D-15	Q314	G-17
D902	D-15	Q701	E-3
D903	D-15	Q702	F-3
D904	E-15	Q703	C-4
IC1	C-21	Q704	C-4
IC301	G-20	Q731	B-8
IC302	I-16	Q741	B-8
IC701	E-3	Q801	D-7
IC702	C-3	Q802	D-7
IC703	D-5		
IC704	B-6		
IC705	B-5		
IC706	B-2		
IC801	E-7		
IC802	C-8		

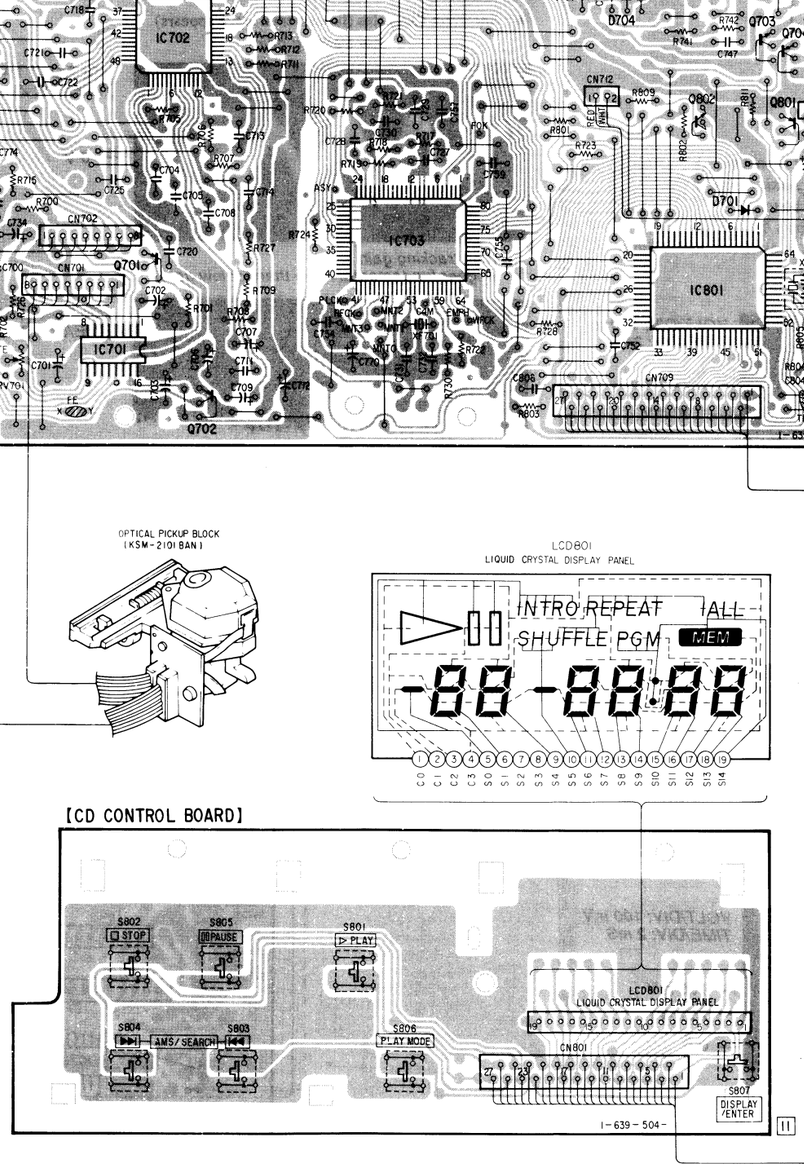


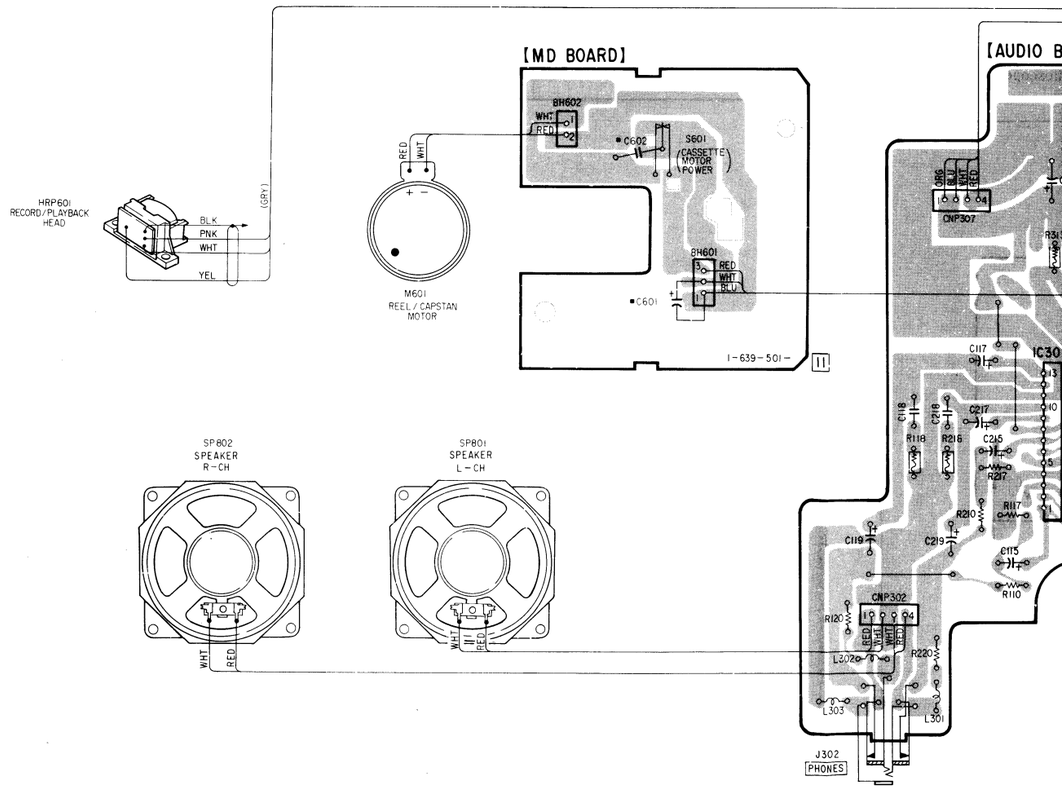










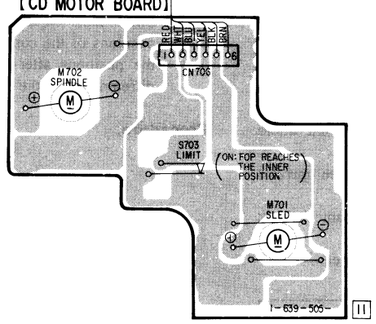


Note:

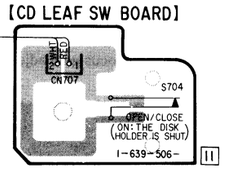
- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ▒▒ : Pattern on the side which is seen.

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

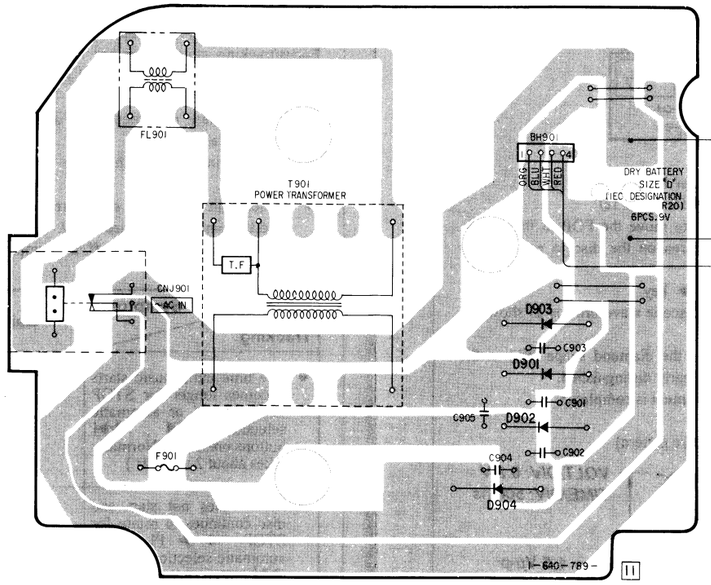
【CD MOTOR BOARD】



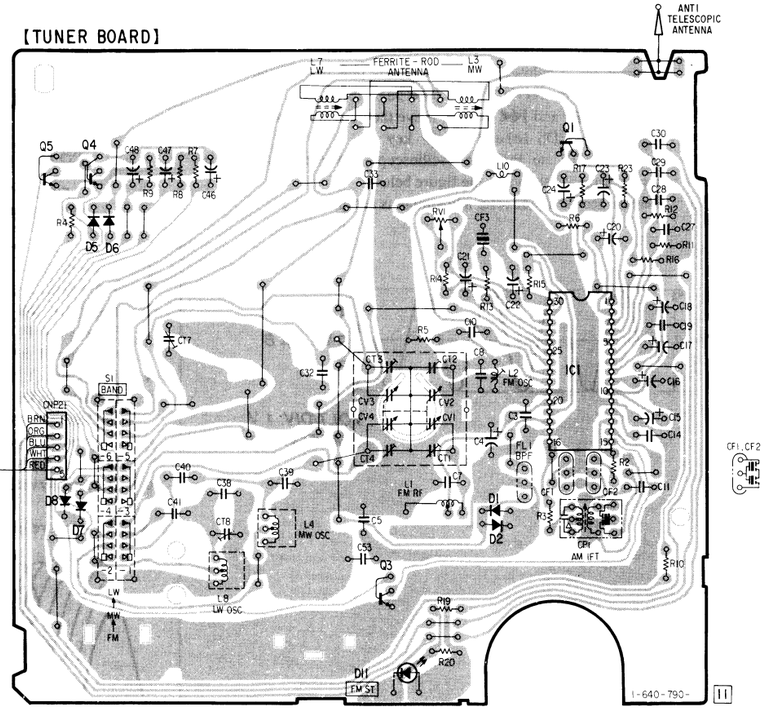
【CD LEAF SW BOARD】



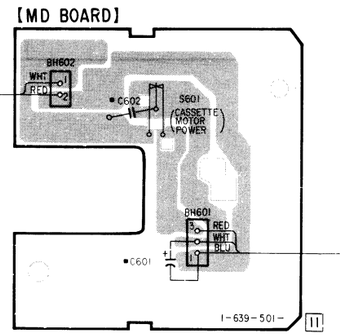
【POWER BOARD】



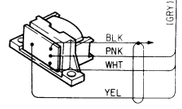
【TUNER BOARD】

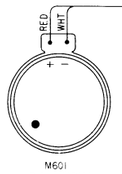


【MD BOARD】

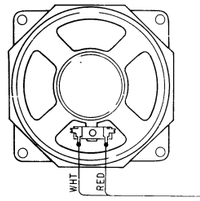


HRP601
RECORD/PLAYBACK HEAD

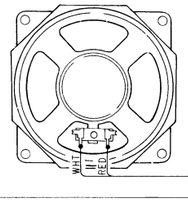




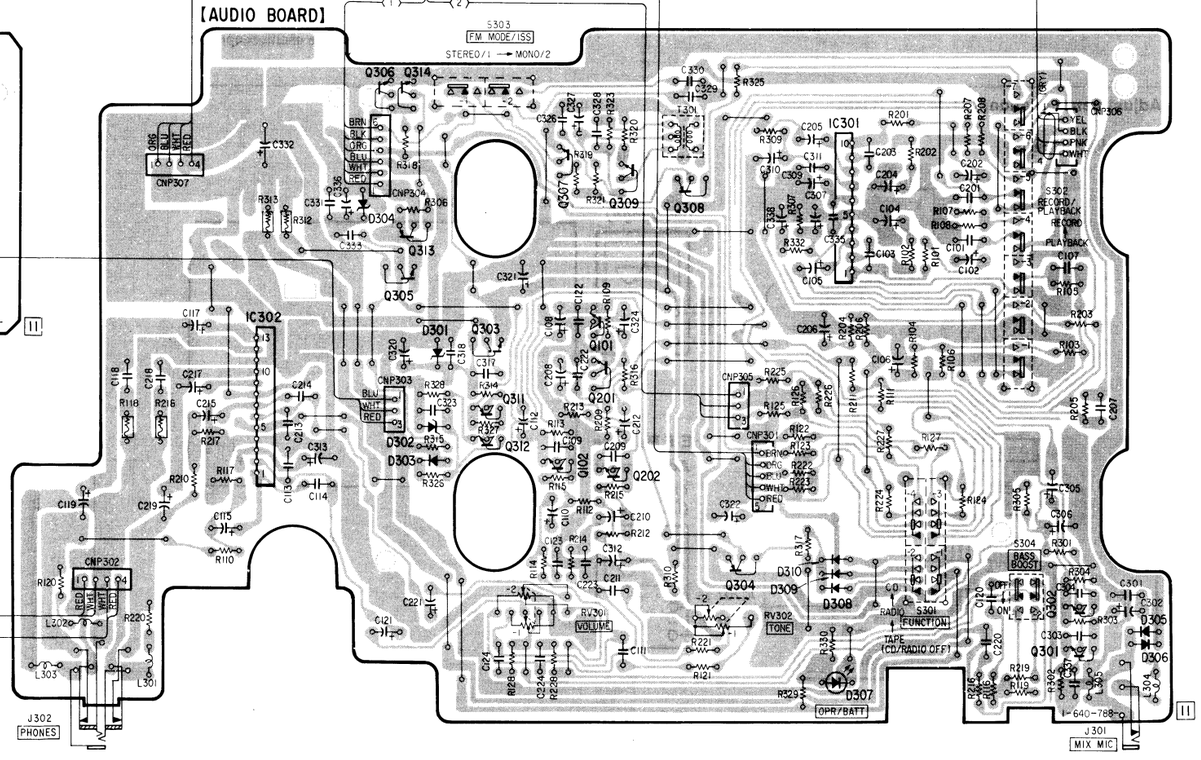
SP802
SPEAKER
R-CH

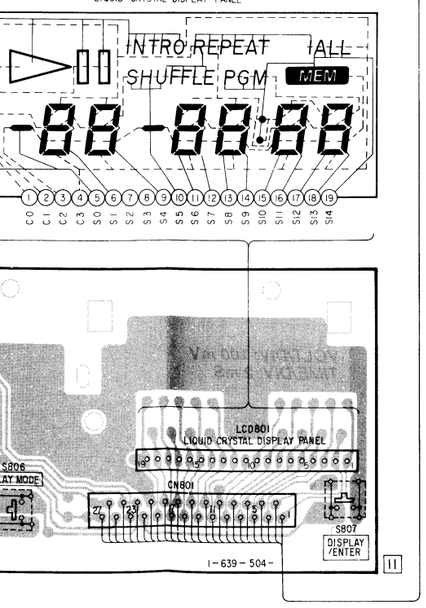


SP801
SPEAKER
L-CH



【AUDIO BOARD】





onent side.
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or side.
en.

MC-Service

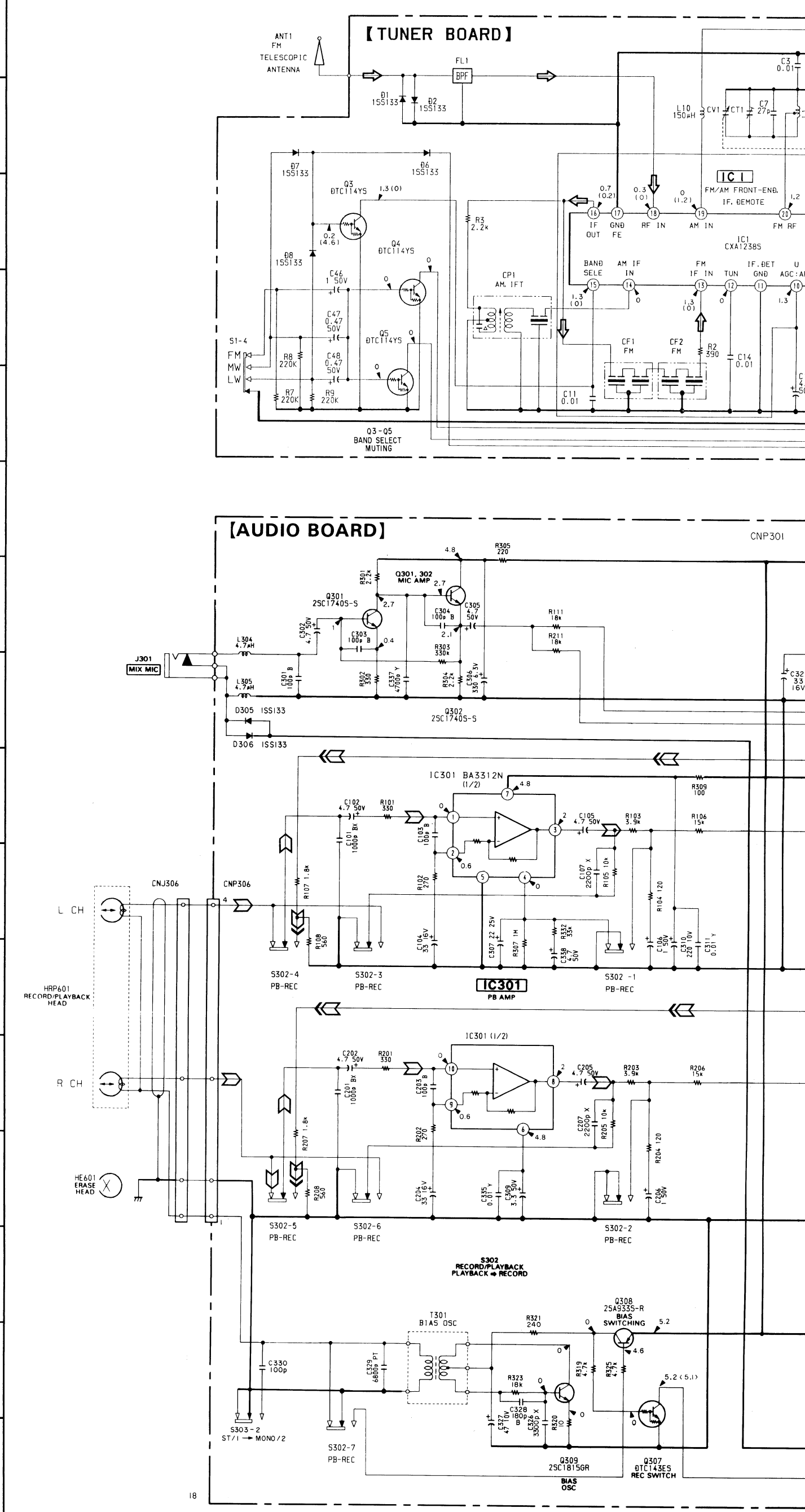
6-2. SCHEMATIC DIAGRAM
– Tuner/Audio Section –

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ⏦ : fusible resistor.

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬▬ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from external BATTERY TERMINAL.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW, LW
  < > : CD
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM ⇒ : PB ⇛ : CD
  ⇒» : REC



IC1
CXA1238S
FM/AM FRONT-END, IF, REMOTE
IF OUT | GND FE | RF IN | AM IN | FM RF | REG | FM OSC | AFC | AM OSC | MUTE TIME CONSTANT | FM DISCRI | VCO | MPX REG | PLL LPF | GND

BAND SELE | AM IF IN | FM IF IN | TUN | IF.DET GND | U AGC:AFC | J AGC:AFC | RIPPLE FILTER | VCC | L:CH OUT | R:CH OUT | VCO CHECK ST IND | PILOT DET LPF | FLL LPF

S1 BAND: FM / MW / LW

L3, 7 MW/LW FERRITE-ROD ANTENNA

CNP21: MONO | L | R | GND | +B

CNP301: GND | R CH | L CH | +B +5V

S303 FM MODE / ISS: STEREO/I → MONO/2

S303-1 ST/I → MONO

S301 FUNCTION: TAPE → RADIO → CD

S301-3 TAPE-RADIO-CD

S301-4 TAPE-RADIO-CD

S302-1 PB-REC

S302-2 PB-REC

S301-2 TAPE-RADIO-CD

S301-1 TAPE-RADIO-CD

Q101 DTC143TS

Q102 2SC1740S-S L DRIVE

Q201 DTC143TS

Q202 2SC1740S-S R DRIVE

Q101,201 MUTING

Q304 DTA114ES MUTE SW

Q305 2SD1944-K REG

Q303 2SB1013-4 SWITCHING

Q306 DTC144ES CD SYNC

Q314 DTC143ES SWITCHING

Q308 2SA933S-R BIAS SWITCHING

Q309 SC1815GR BIAS OSC

Q307 DTC143ES REC SWITCH

Q311 2SB1013-4 REG

Q312 2SC1740S-S SWITCHING

Q1 DTC114YS BUFFER

D11 SLR-34VR FM ST

D5 1SS133

D308 - 310 1SS133

D304 MTZJ-6.8A

D301 MTZJ-5.6C

D303 1SS133

D302 MTZJ-6.8A

D307 SLR-34VR OPR/BATT

IC302 POWER AMP
IC302 LA4597 (1/2)

IC302 (1/2) LA4597

RV302 TONE

RV301 VOLUME

S304-1 BASS BOOST

S304-2 BASS BOOST

CNP305: L CH | GND | R CH

CNP302

CNP307

CNP304: REC STAND BY | CD SELECT | +B +5V | GND | GND | +B +6.0V

CNP303

【MD BOARD】

BH601 | BH602

M601 REEL/CAPSTAN MOTOR

S601 (MOTOR POWER)

Ⓐ TO CD MAIN BOARD CN704

MC-Service

S1-3 FM MW LW
S1-6 FM MW LW
S1-2 FM MW LW
S1-1 FM MW LW

R127 15k
R125 12k
R126 1.3k
R226 1.3k
R227 15k
R225 12k

CNP305
3 L CH
GND
1 R CH

B
TO CD MAIN BOARD
CN705

CNP302
CNJ302
SP801 SPEAKER L CH
SP802 SPEAKER R CH

C119 000 10V
C219 000 10V
R118 3.3 1/4W
R329 820
R330 240
D307 SLR-34VR OPR/BATT
CNP307

L301 4.7μH
L302 4.7μH
L303 4.7μH
R220 82
R120 82
J302 PHONES

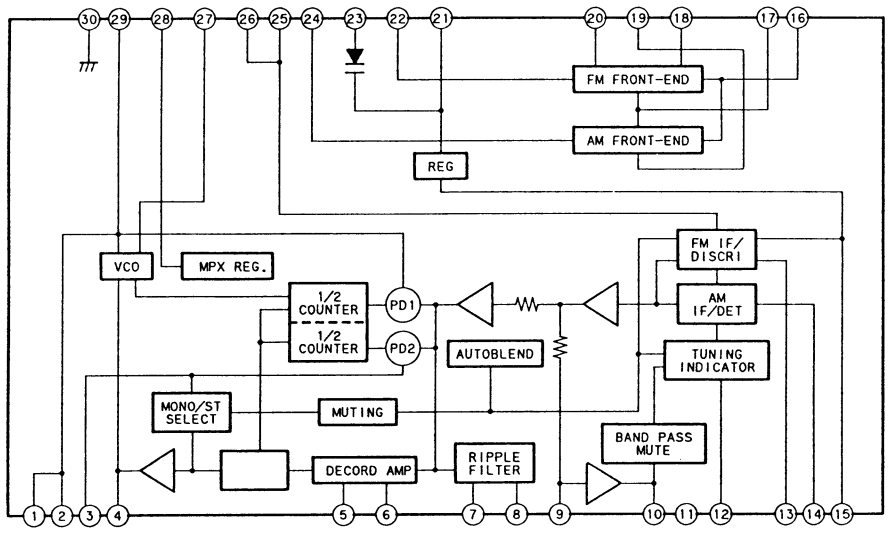
MC-Service

BH901 [POWER BOARD]
T901 POWER
D901-904 RECT
F901 T2.5A 250V
C904 0.022 F
C903 0.022 F
C902 0.022 F
C901 0.022 F
C905 0.22
D904 3002
D903 3002
D902 3002
D901 3002
T.F
LF901
CNJ901 ~AC IN
DRY BATTERY SIZE "D" (IEC DESIGNATION R20) 6PCS. 9V

TOTAL CURRENT
TAPE ▶ :240mA
● :240mA
RADIO FM :190mA
AM :190mA
CD ■ :200mA
▶ :340~380mA

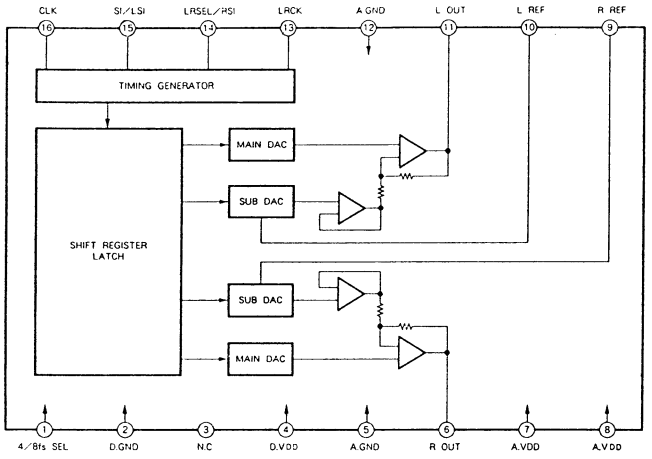
•IC Block Diagram

IC1 CXA1238S

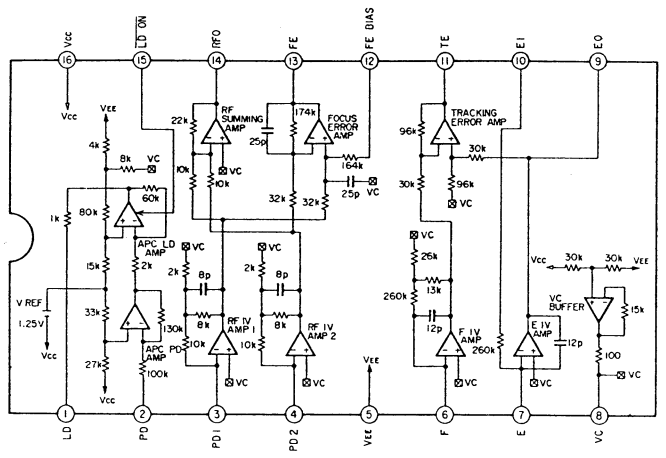


•IC Block Diagram

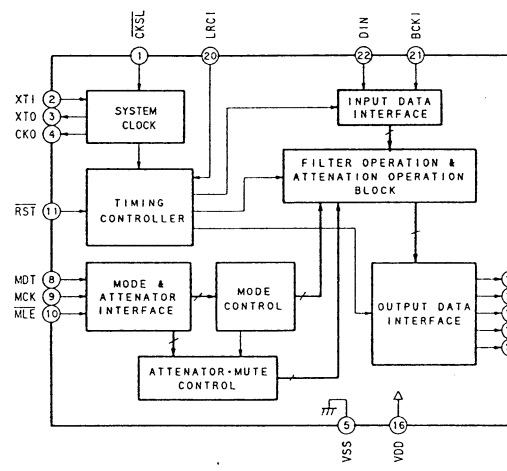
IC704 μPD6376GS



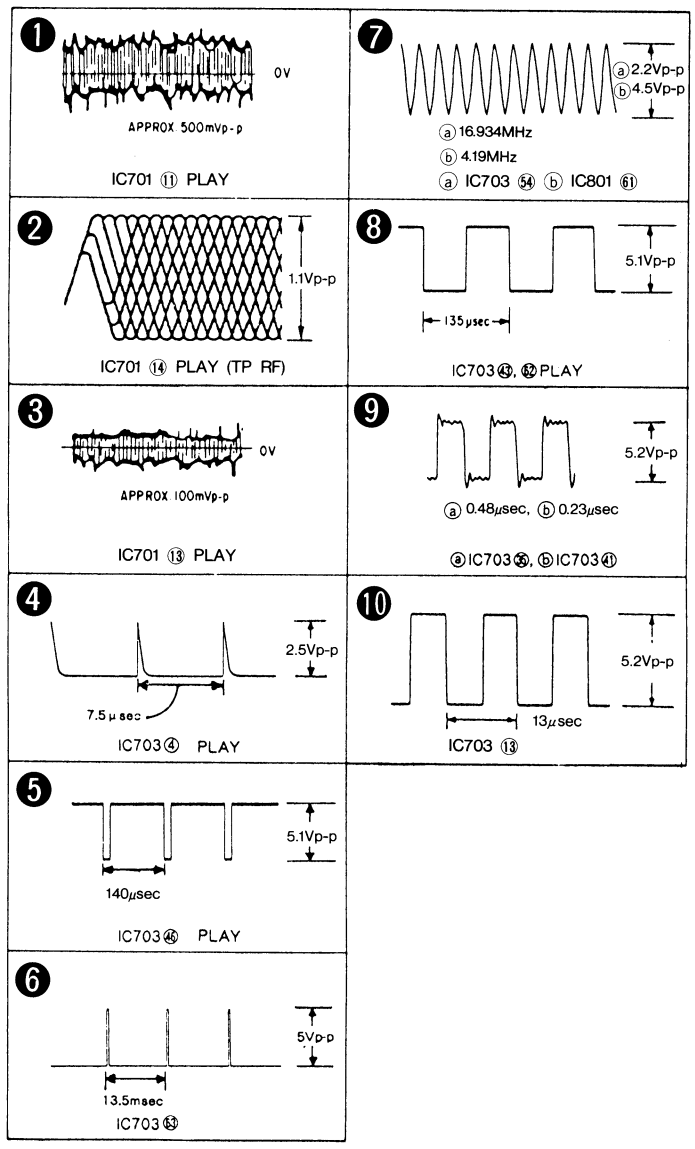
IC701 CXA1421M



IC705 SM5840DS



6-3. SCHEMATIC DIAGRAM – CD Section –



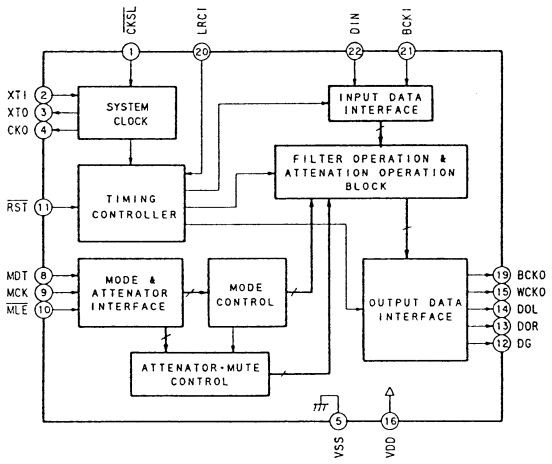
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ⏦ : fusible resistor.

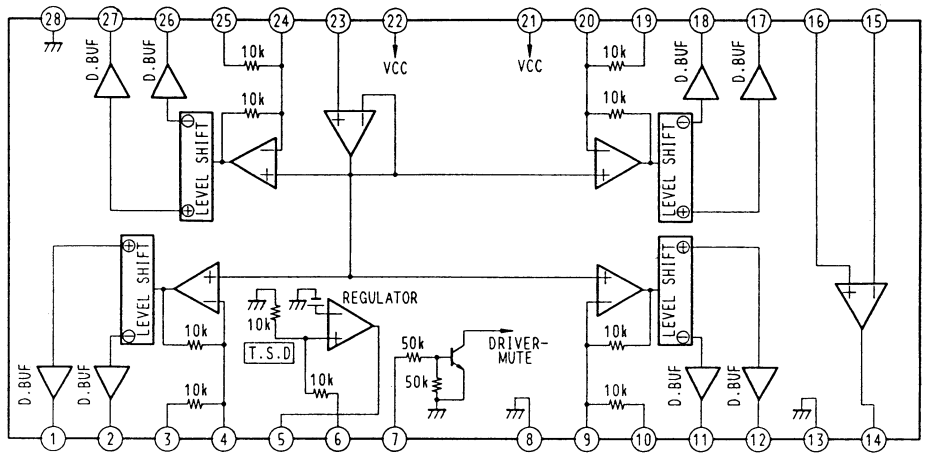
Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

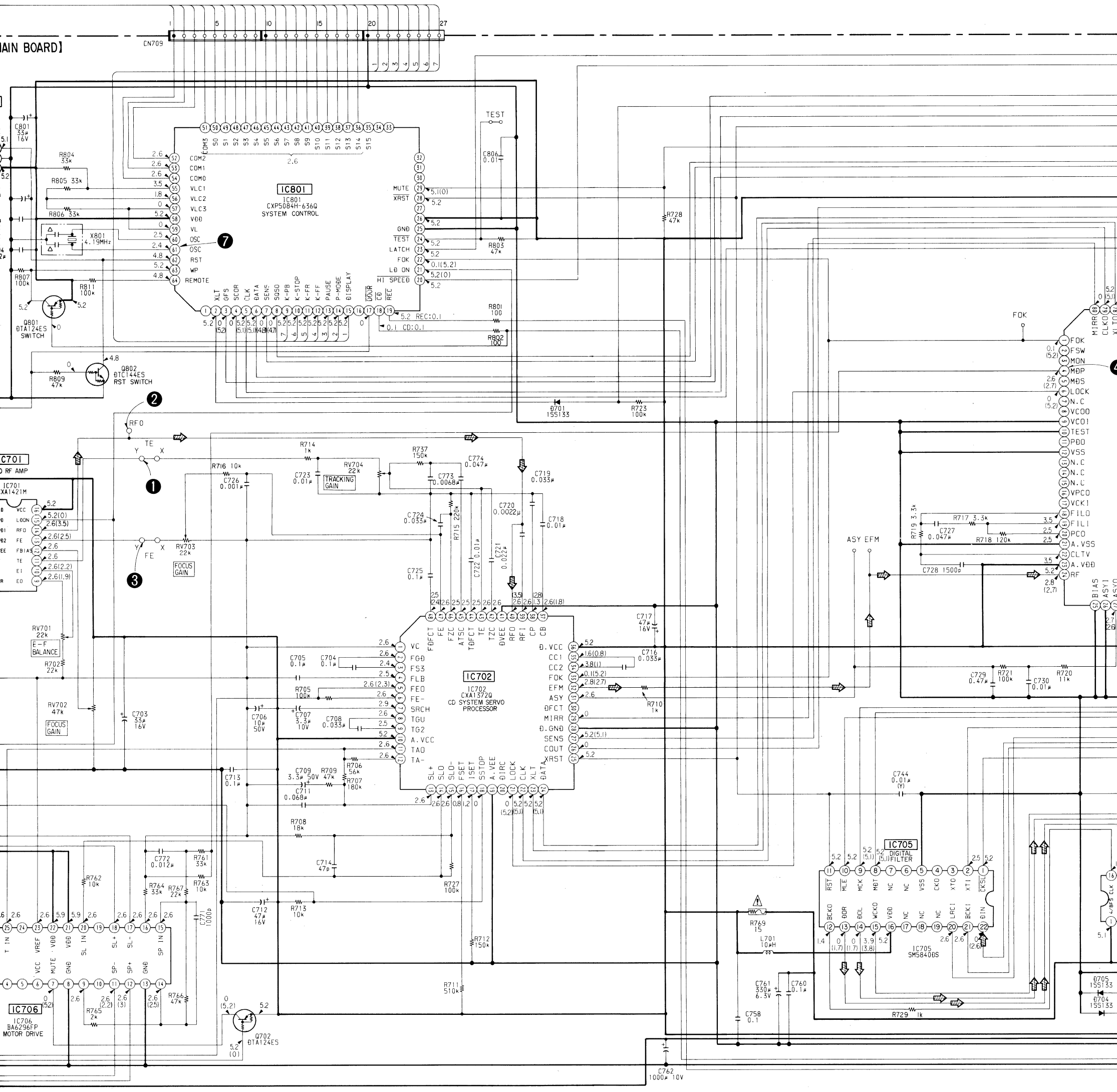
- ▬▬ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from external BATTERY TERMINAL.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : CD STOP
  ( ) : CD PLAY
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

IC705 SM5840DS

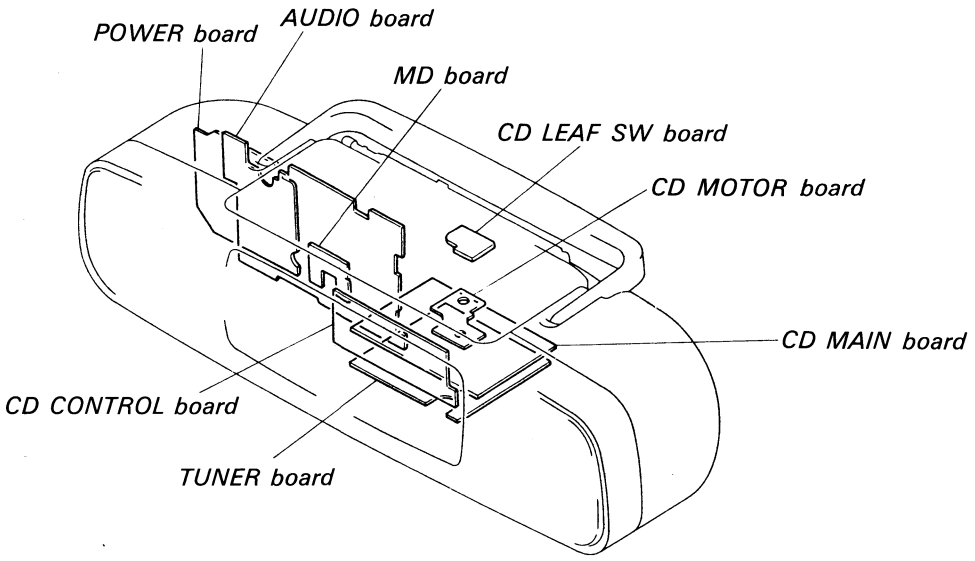


IC706 BA6296FP

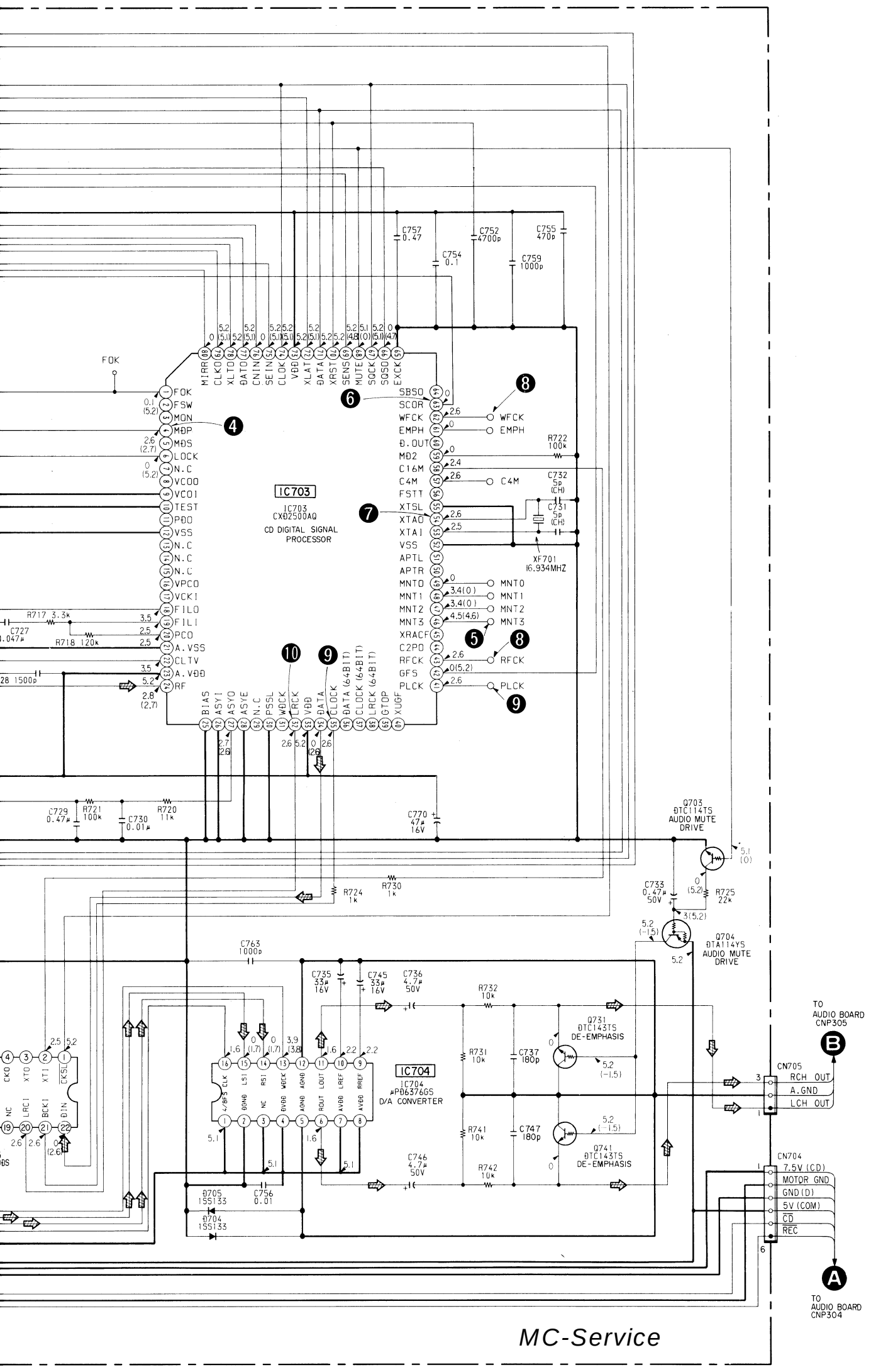




6-4. CIRCUIT BOARDS LOCATION

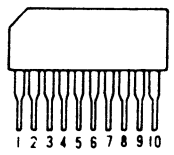


17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25

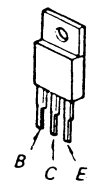


● Semiconductor Lead Layouts

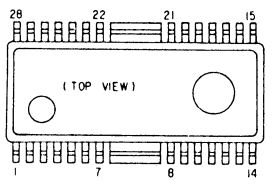
BA3312N



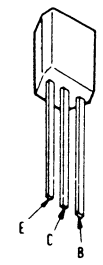
2SD1944-K



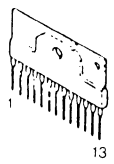
BA6296FP



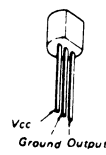
DTA114ES
DTA114YS
DTA124ES
DTC114YS
DTC143ES
DTC143TS
DTC144ES



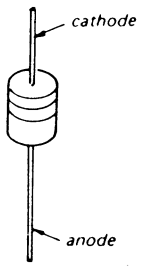
LA4597



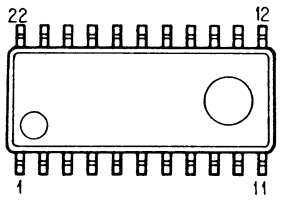
PST529E



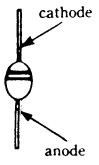
1SS119
RD5.6ES-B2
RD6.8ES-B2



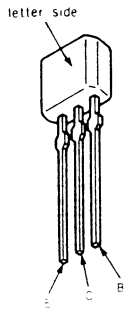
SM5840DS



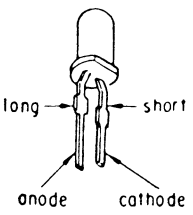
DSA3A4



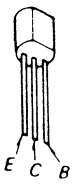
2SA1175-HFE
2SC2785-HFE
DTC114TS



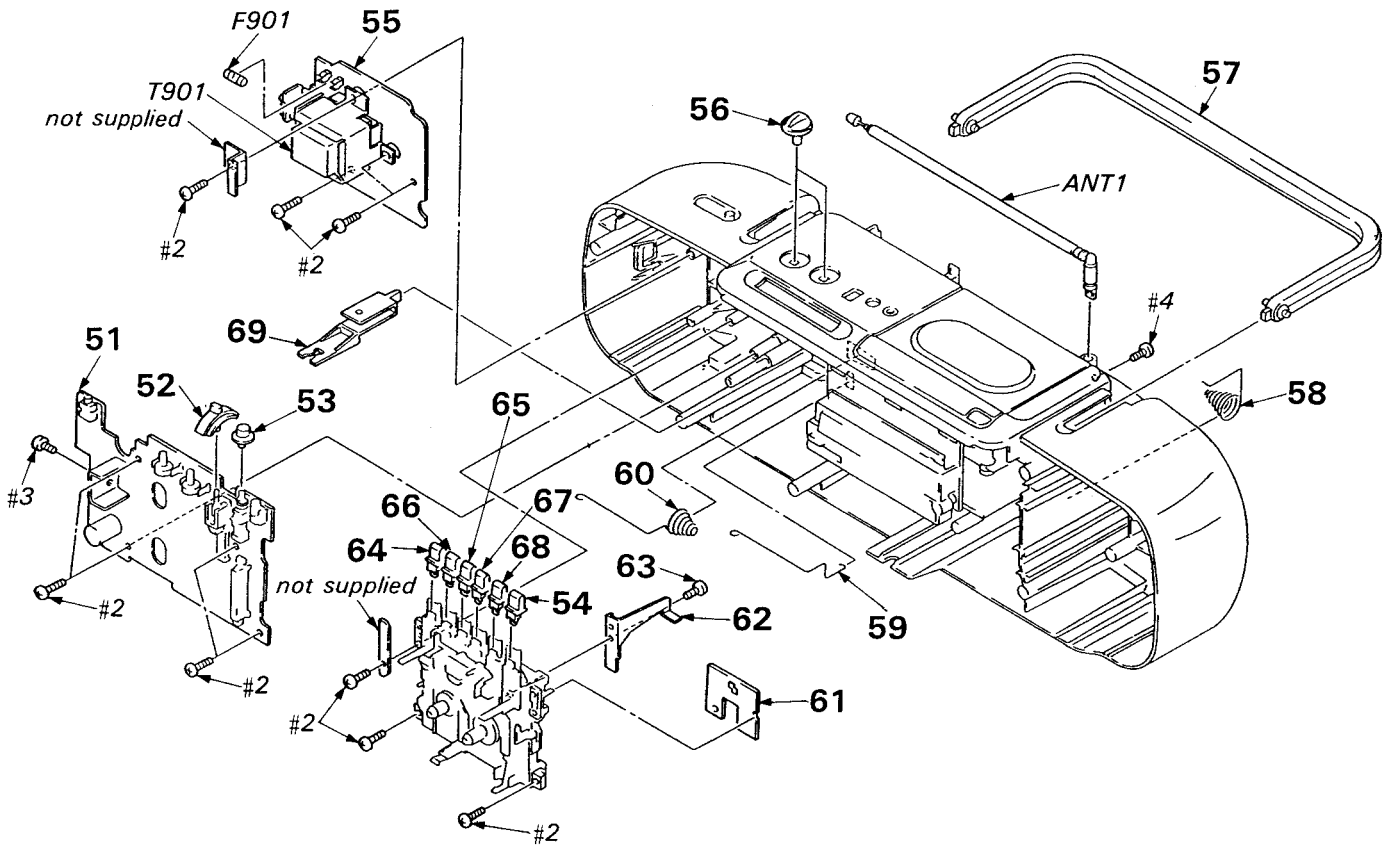
GL-3PR9



2SB1013-2
2SB1013-4
2SC1815-GR



7-2. PC BOARDS SECTION



Ref. No.	Part No.	Description	Remark
51	* A-3261-727-A	AUDIO BOARD, COMPLETE	
52	3-368-498-01	KNOB (FUN)	
53	3-368-500-01	BUTTON (BASS)	
54	3-368-511-01	BUTTON (S/E)	
55	* 1-640-789-11	POWER BOARD	
56	3-368-499-01	KNOB (VOL)	
57	X-3363-043-1	HANDLE ASSY	
58	3-368-494-01	SPRING (+, -), BATTERY COIL	
59	3-368-492-01	TERMINAL (-), BATTERY	
60	3-368-493-01	TERMINAL (+), BATTERY	
61	* 1-639-501-11	MD BOARD	
62	* 3-368-491-01	LEVER, REC	
63	4-931-757-71	SCREW (DIA. 2.6X6) (IT3B)	
64	3-368-506-01	BUTTON (PAUSE)	
65	3-368-507-01	BUTTON (REW)	
66	3-368-508-01	BUTTON (FF)	
67	3-368-509-01	BUTTON (PLAY)	
68	3-368-510-01	BUTTON (REC)	
69	3-370-285-01	KNOB (ISS)	
ANT1	1-501-480-11	ANTENNA, TERESCOPIC	
F901	⚠1-532-286-00	FUSE (T2.5A 250V) (UK)	
F901	⚠1-576-009-11	FUSE (T2.5A 250V) (AEP, IT)	
T901	⚠1-450-651-11	TRANSFORMER, POWER (UK)	
T901	⚠1-450-653-11	TRANSFORMER, POWER (AEP, IT)	

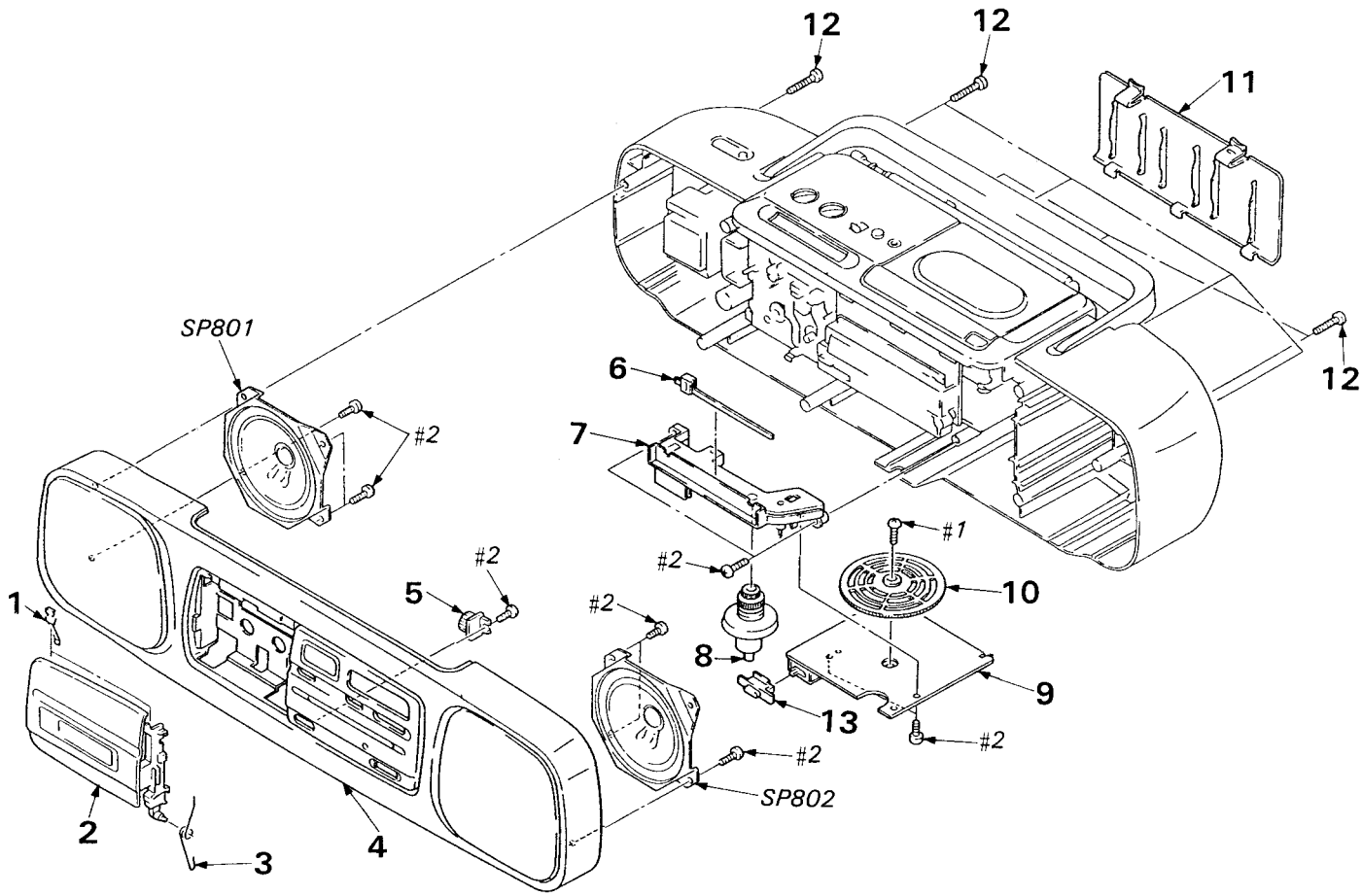
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SECTION 7
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- hardware (#mark) list is given in the last of this parts list.
- IT:Italian

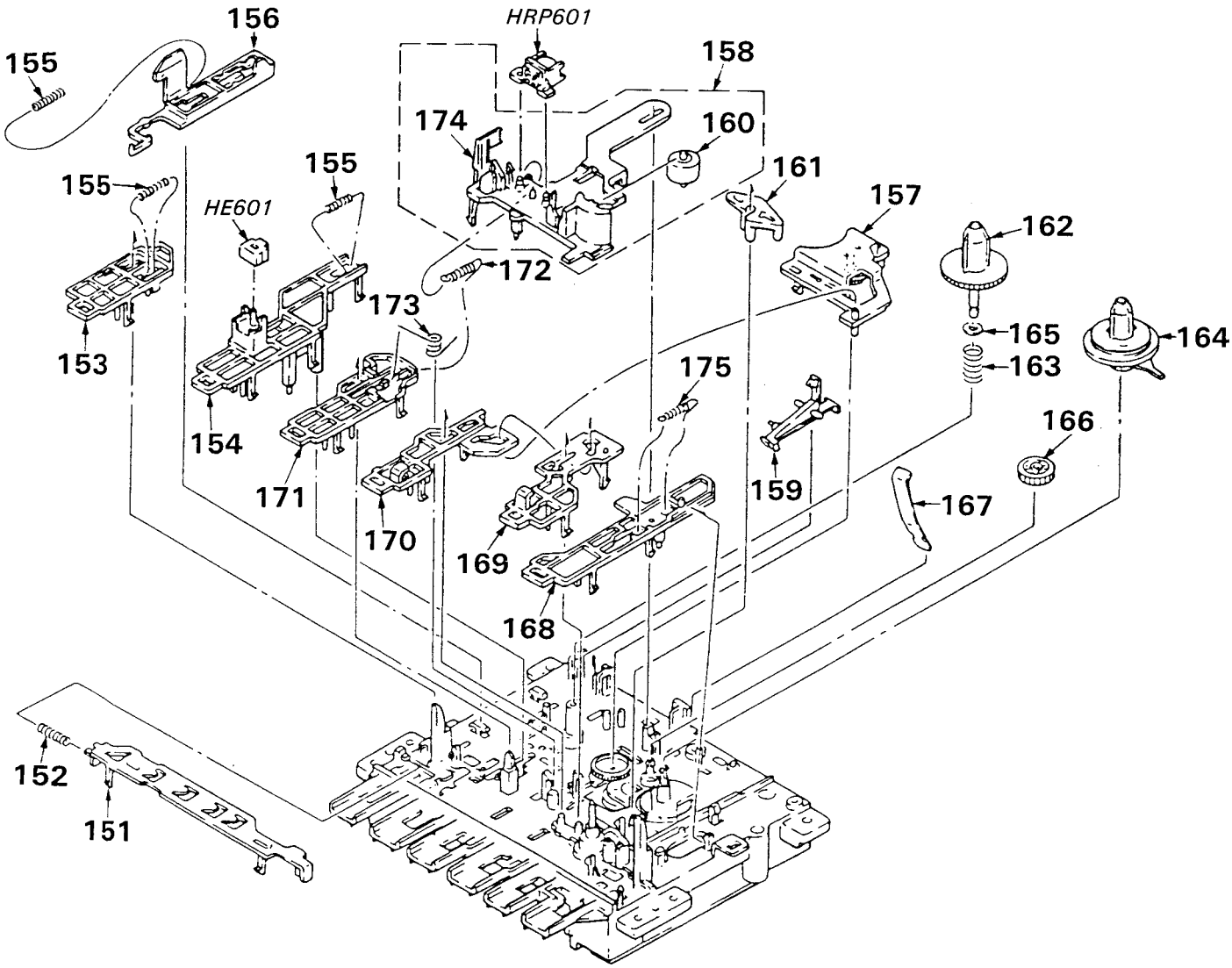
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

7-1. FRONT PANEL AND TUNER BOARD SECTION



Ref. No.	Part No.	Description	Remark
1	3-308-823-01	SPRING	
2	3-368-526-01	LID, CASSETTE	
3	3-368-497-01	SPRING, CASSETTE UP	
4	X-3363-589-1	CABINET (FRONT) ASSY (AEP, UK)	
4	X-3363-594-1	CABINET (FRONT) ASSY (IT)	
5	3-351-377-01	DAMPER	
6	* 3-368-504-01	RACK, POINTER	
7	* 3-368-520-01	CHASSIS, TU	
8	3-368-505-01	KNOB (TUN)	
9	* A-3261-728-A	TUNER BOARD, COMPLETE (AEP, UK)	
9	* A-3261-846-A	TUNER BOARD, COMPLETE (IT)	
10	* 3-368-490-01	GEAR, VC	
11	3-368-522-01	LID, BATTERY CASE	
12	3-325-679-31	SCREW, TAPPING +BV 3X14	
13	3-368-514-01	KNOB BAND	
SP801	1-544-154-11	SPEAKER	
SP802	1-544-154-11	SPEAKER	

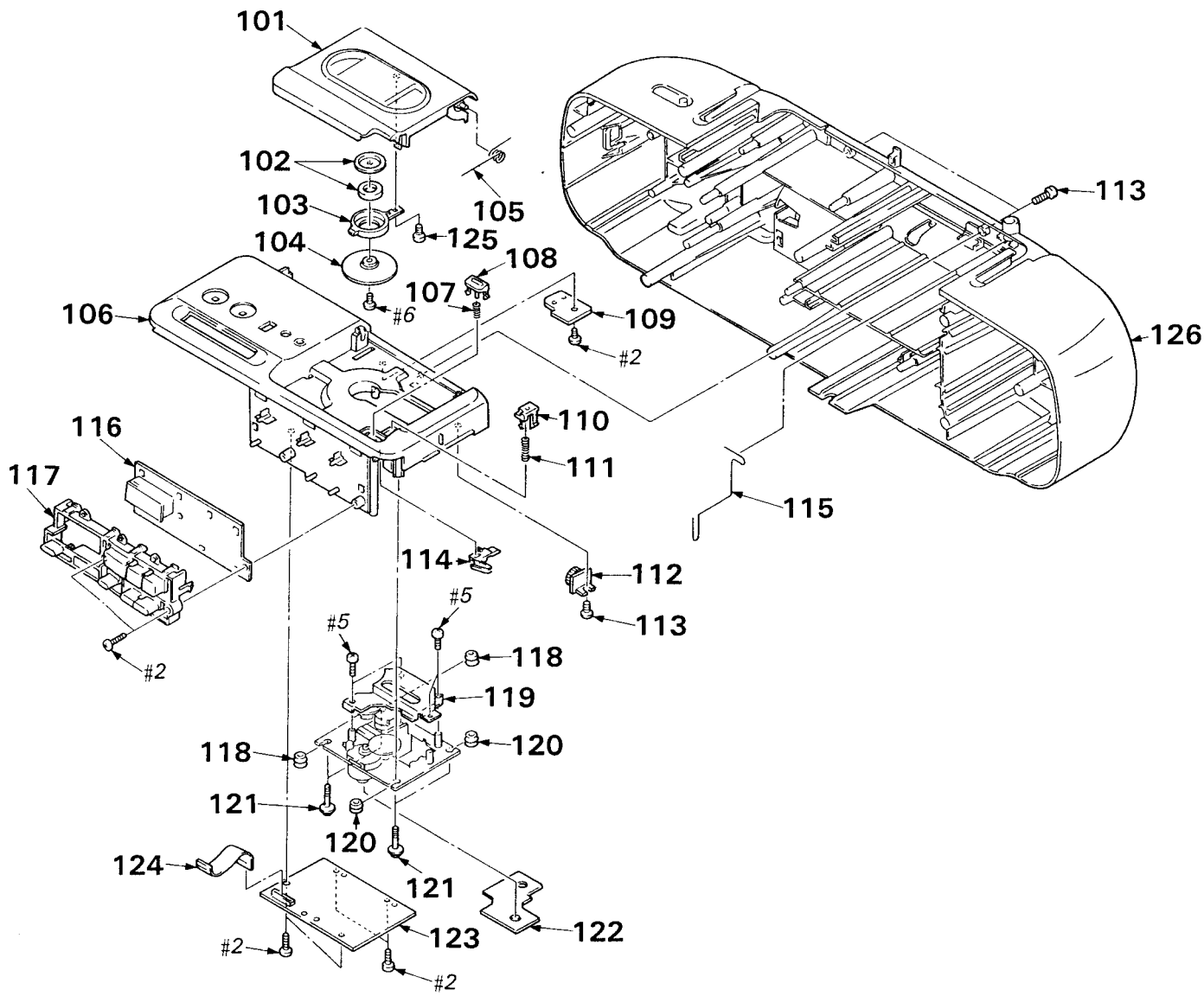
7-4. MD SECTION-1 (MF-55-64)



Ref. No.	Part No.	Description	Remark
151	4-932-695-01	SLIDER (FR), LOCK	
152	4-932-656-01	SPRING, COMPRESSION	
153	4-928-985-01	LEVER, STOP	
154	4-934-511-01	LEVER (S), REC	
155	4-932-648-01	SPRING, COMPRESSION	
156	4-936-206-01	SLIDER (S), EJECT	
157	X-4920-347-1	LEVER (S) ASSY, FR	
158	X-4920-345-1	BASE (S) ASSY, HEAD	
159	* 3-370-187-01	CLAW, ERASING PROTECTION	
160	4-928-962-01	PINCH ROLLER	
161	4-928-982-01	LEVER (C)	
162	4-928-978-01	GEAR (C), SUPPLY REEL	
163	3-343-381-11	SPRING, COMPRESSION	
164	X-4920-350-1	GEAR (S) ASSY, T REEL	

Ref. No.	Part No.	Description	Remark
165	4-931-795-11	WASHER	
166	3-343-285-01	GEAR, FF	
167	4-928-957-01	RETAINER, CASSETTE	
168	4-928-994-01	LEVER, PAUSE	
169	4-928-993-01	LEVER, FF	
170	4-928-992-01	LEVER, REW	
171	4-928-991-01	LEVER, PLAY	
172	4-928-972-01	SPRING, TENSION	
173	4-928-973-01	SPRING	
174	4-932-693-02	DECK (S), HEAD	
175	3-313-372-01	SPRING, TENSION	
HE601	1-543-525-11	HEAD, MAGNETIC (ERASE)	
HRP601	1-543-628-11	HEAD, MAGNETIC (REC/PB)	

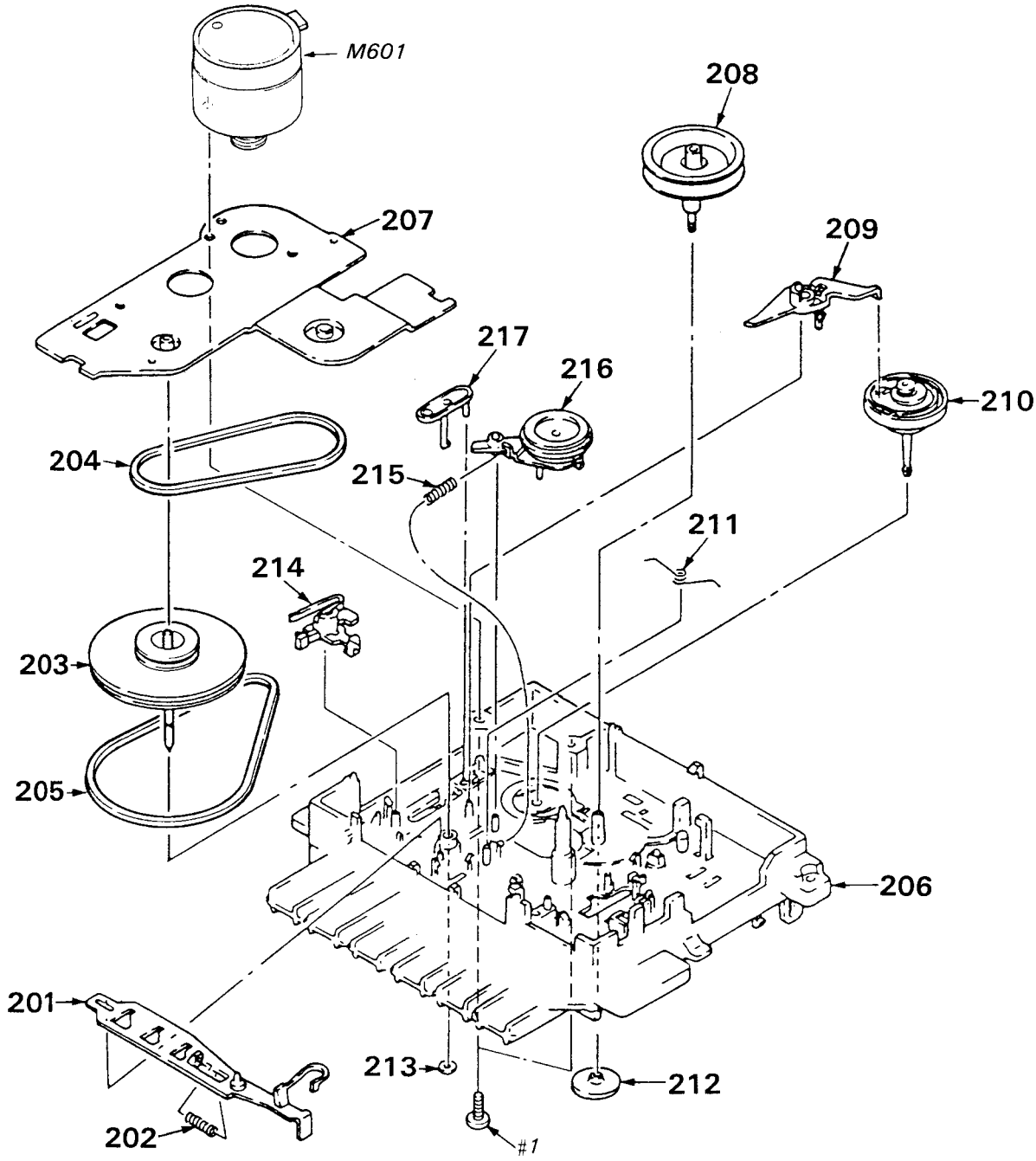
7-3. CD SECTION



Ref. No.	Part No.	Description	Remark
101	X-3363-042-1	LID ASSY, CD	
102	1-452-531-11	MAGNET	
103	* 3-368-489-01	HOLDER, CHUCKING	
104	3-704-435-01	PLATE (M), CHUCK	
105	* 3-368-496-01	SPRING (1), CD UP	
106	3-368-525-11	CABINET (UPPER)	
107	3-368-502-01	SPRING, CD BUTTON UP	
108	3-368-513-01	BUTTON, CD OPEN	
109	* 1-639-506-11	CD LEAF SW BOARD	
110	* 3-368-515-01	LEVER, CD LIFT	
111	3-371-665-01	SPRING (CD LIFT)	
112	3-351-377-01	DAMPER	
113	3-325-679-71	SCREW, TAPPING +BV 3X12	

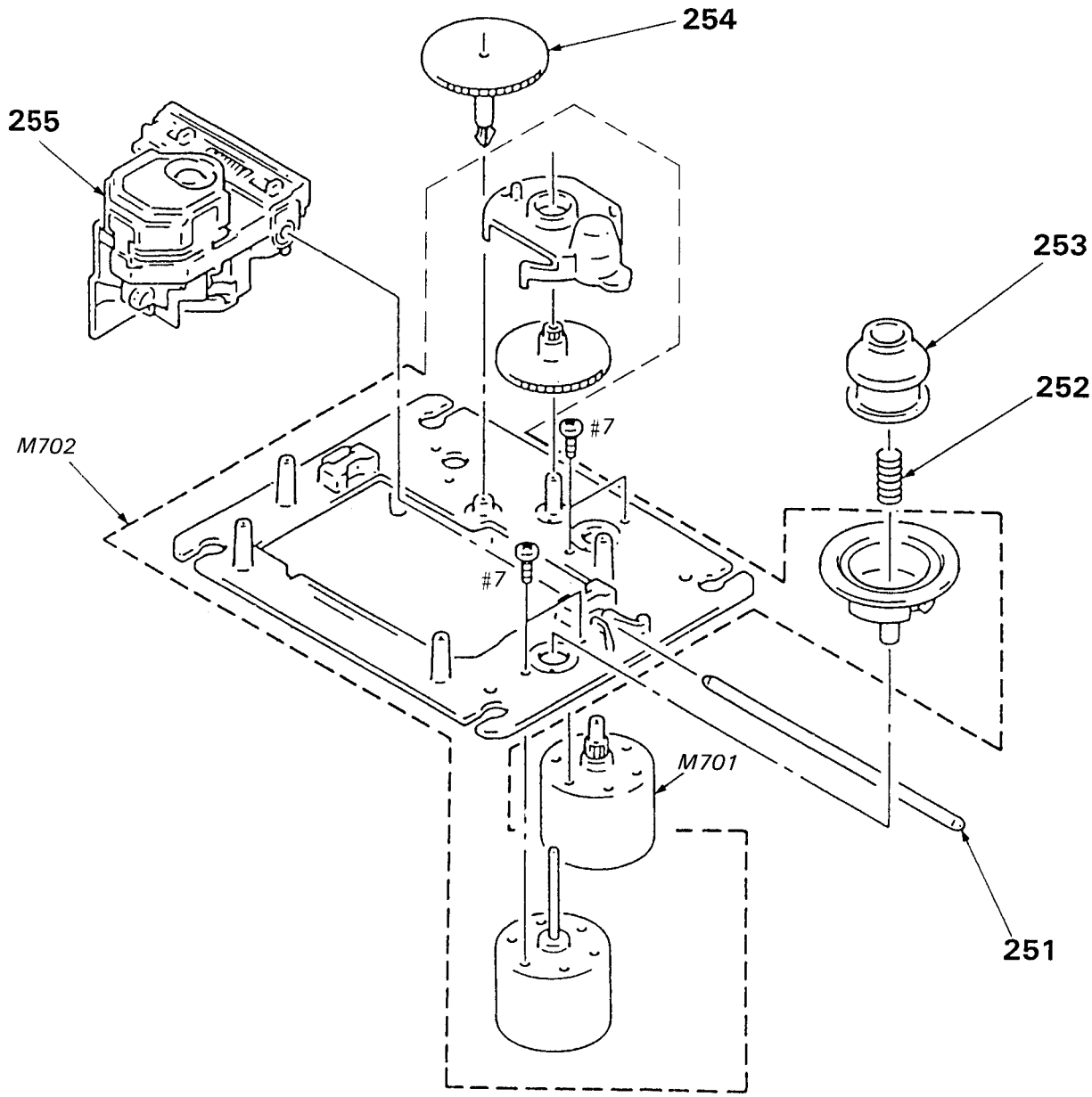
Ref. No.	Part No.	Description	Remark
114	3-368-488-01	SLIDER	
115	* 3-368-495-01	TERMINAL, ANT	
116	* 1-639-504-11	CD CONTROL BOARD	
117	3-368-521-01	BUTTON, CD	
118	4-922-858-11	DAMPER (BLUE)	
119	* 4-928-936-01	COVER, CD	
120	4-922-858-01	DAMPER (BROWN)	
121	4-931-373-01	SCREW, CD FITTING	
122	* 1-639-505-11	CD MOTOR BOARD	
123	* A-3275-084-A	CD MAIN BOARD, COMPLETE	
124	* 1-690-171-11	CORD, PARALLEL (27 CORE) (FFC)	
125	4-931-757-71	SCREW (DIA. 2.6X6) (IT3B)	
126	3-368-524-21	CABINET (REAR)	

7-5. MD SECTION-2 (MF-55-64)



Ref. No.	Part No.	Description	Remark
201	4-928-996-01	LEVER, SW	
202	4-932-656-01	SPRING, COMPRESSION	
203	X-4920-349-1	WHEEL (S) ASSY, CAPSTAN	
204	4-928-974-01	BELT (MIDWAY)	
205	4-928-951-01	BELT (CAPSTAN)	
206	X-4920-348-1	CHASSIS (S) ASSY, MECHANICAL	
207	* X-4918-598-1	PLATE ASSY, GROUND	
208	X-4918-580-1	PULLEY ASSY, FR	
209	4-928-986-01	LEVER (S), SHUT-OFF	
210	X-4918-582-1	PLATE ASSY, TAKE-UP REEL	
211	4-928-958-01	SPRING, FR RETURN	
212	4-928-967-01	GEAR (C), MIDWAY	
213	3-343-358-01	RING, RETAINING	
214	4-928-987-01	LEVER (T), SHUT-OFF	
215	4-932-655-01	SPRING, COMPRESSION	
216	X-4920-346-1	LEVER (S) ASSY, IDLER	
217	4-928-961-01	PLATE, PAUSE LOCK	
M601	X-4919-956-1	MOTOR ASSY	

7-6. OPTICAL PICKUP BLOCK (KSM-2101BAN)



Ref. No.	Part No.	Description	Remark
251	4-917-565-01	SHAFT, SLED	
252	2-625-191-01	SPRING, COMPRESSION	
253	2-625-186-01	RING (C), CENTER	
254	2-625-188-02	GEAR (A)	
255	⚠8-848-137-11	PICK-UP, OPTICAL KSS-210B	
M701	X-2625-132-1	MOTOR GEAR ASSY (MB) (SLED)	
M702	X-2625-133-2	MOTOR ASSY, SPINDLE (TT CHASSIS ASSY (MB))	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SECTION 8
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- RESISTORS
  All resistors are in ohms
  METAL:Metal-film resistor
  METAL OXIDE:Metal Oxide-film resistor
  F:nonflammable
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPB...
- CAPACITORS
  uF: μF
- COILS
  uH: μH
- IT:Italian

When indication parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
	A-3261-727-A	AUDIO BOARD, COMPLETE			
		**********			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3			
		< CAPACITOR >			
C101	1-162-294-31	CERAMIC	0.001uF	10%	50V
C102	1-124-927-11	ELECT	4.7uF	20%	100V
C103	1-162-282-31	CERAMIC	100PF	10%	50V
C104	1-124-034-51	ELECT	33uF	20%	16V
C105	1-124-927-11	ELECT	4.7uF	20%	100V
C106	1-124-903-11	ELECT	1uF	20%	50V
C107	1-161-043-00	CERAMIC	0.0022uF	10%	50V
C108	1-124-927-11	ELECT	4.7uF	20%	100V
C109	1-162-282-31	CERAMIC	100PF	10%	50V
C110	1-124-927-11	ELECT	4.7uF	20%	100V
C111	1-161-057-00	CERAMIC	0.033uF	10%	50V
C112	1-124-927-11	ELECT	4.7uF	20%	100V
C113	1-162-292-31	CERAMIC	680PF	10%	50V
C114	1-162-282-31	CERAMIC	100PF	10%	50V
C115	1-124-126-00	ELECT	47uF	20%	10V
C117	1-124-443-00	ELECT	100uF	20%	10V
C118	1-136-165-00	FILM	0.1uF	5%	50V
C119	1-124-473-11	ELECT	1000uF	20%	10V
C120	1-136-165-00	FILM	0.1uF	5%	50V
C121	1-124-927-11	ELECT	4.7uF	20%	100V
C122	1-162-282-31	CERAMIC	100PF	10%	50V
C123	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C124	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C201	1-162-294-31	CERAMIC	0.001uF	10%	50V
C202	1-124-927-11	ELECT	4.7uF	20%	100V
C203	1-162-282-31	CERAMIC	100PF	10%	50V
C204	1-124-034-51	ELECT	33uF	20%	16V
C205	1-124-927-11	ELECT	4.7uF	20%	100V

Ref. No.	Part No.	Description			Remark
C206	1-124-903-11	ELECT	1uF	20%	50V
C207	1-161-043-00	CERAMIC	0.0022uF	10%	50V
C208	1-124-927-11	ELECT	4.7uF	20%	100V
C209	1-162-282-31	CERAMIC	100PF	10%	50V
C210	1-124-927-11	ELECT	4.7uF	20%	100V
C211	1-161-057-00	CERAMIC	0.033uF	10%	50V
C212	1-124-927-11	ELECT	4.7uF	20%	100V
C213	1-162-292-31	CERAMIC	680PF	10%	50V
C214	1-162-282-31	CERAMIC	100PF	10%	50V
C215	1-124-126-00	ELECT	47uF	20%	10V
C217	1-124-443-00	ELECT	100uF	20%	10V
C218	1-136-165-00	FILM	0.1uF	5%	50V
C219	1-124-473-11	ELECT	1000uF	20%	10V
C220	1-136-165-00	FILM	0.1uF	5%	50V
C221	1-124-927-11	ELECT	4.7uF	20%	100V
C222	1-162-282-31	CERAMIC	100PF	10%	50V
C223	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C224	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C301	1-162-282-31	CERAMIC	100PF	10%	50V
C302	1-124-927-11	ELECT	4.7uF	20%	100V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-162-282-31	CERAMIC	100PF	10%	50V
C305	1-124-927-11	ELECT	4.7uF	20%	100V
C306	1-124-442-00	ELECT	330uF	20%	6.3V
C307	1-126-233-11	ELECT	22uF	20%	50V
C309	1-123-382-00	ELECT	3.3uF	20%	100V
C310	1-126-176-11	ELECT	220uF	20%	10V
C311	1-161-379-00	CERAMIC	0.01uF	20%	25V
C312	1-126-176-11	ELECT	220uF	20%	10V
C313	1-124-119-00	ELECT	330uF	20%	16V
C317	1-161-379-00	CERAMIC	0.01uF	20%	25V
C318	1-161-379-00	CERAMIC	0.01uF	20%	25V
C320	1-124-472-11	ELECT	470uF	20%	10V
C321	1-126-176-11	ELECT	220uF	20%	10V

AUDIO

Ref. No.	Part No.	Description			Remark
C322	1-124-034-51	ELECT	33uF	20%	16V
C323	1-161-379-00	CERAMIC	0.01uF	20%	25V
C324	1-124-907-11	ELECT	10uF	20%	50V
C326	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C327	1-124-126-00	ELECT	47uF	20%	10V
C328	1-162-285-31	CERAMIC	180PF	10%	50V
C329	1-130-481-00	MYLAR	0.0068uF	5%	50V
C330	1-162-294-31	CERAMIC	0.001uF	10%	50V
C331	1-161-379-00	CERAMIC	0.01uF	20%	25V
C332	1-126-017-11	ELECT	6800uF	20%	16V
C333	1-161-379-00	CERAMIC	0.01uF	20%	25V
C335	1-161-379-00	CERAMIC	0.01uF	20%	25V
C336	1-124-126-00	ELECT	47uF	20%	10V
C337	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C338	1-124-927-11	ELECT	4.7uF	20%	100V
		< CONNECTOR >			
CNP301 *	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P			
CNP302 *	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP303 *	1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P			
CNP304 *	1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P			
CNP305 *	1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P			
CNP306 *	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP307 *	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
		< DIODE >			
D301	8-719-109-89	DIODE	RD5.6ES-B2		
D302	8-719-109-97	DIODE	RD6.8ES-B2		
D303	8-719-911-19	DIODE	1SS119		
D304	8-719-109-97	DIODE	RD6.8ES-B2		
D305	8-719-911-19	DIODE	1SS119		
D306	8-719-911-19	DIODE	1SS119		
D307	8-719-918-76	LED	GL-3PR9 (OPR/BATT)		
D308	8-719-911-19	DIODE	1SS119		
D309	8-719-911-19	DIODE	1SS119		
D310	8-719-911-19	DIODE	1SS119		
		< IC >			
IC301	8-759-942-24	IC	BA3312N		
IC302	8-759-820-22	IC	LA4597		
		< JACK >			
J301	1-563-330-11	JACK (MIX MIC)			
J302	1-566-891-11	JACK (PHONES)			
		< COIL >			
L301	1-410-324-11	INDUCTOR	4.7uH		
L302	1-410-324-11	INDUCTOR	4.7uH		
L303	1-410-324-11	INDUCTOR	4.7uH		
L304	1-410-324-11	INDUCTOR	4.7uH		
L305	1-410-324-11	INDUCTOR	4.7uH		
		< TRANSISTOR >			
Q101	8-729-900-74	TRANSISTOR	DTC143TS		
Q102	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q201	8-729-900-74	TRANSISTOR	DTC143TS		
Q202	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q301	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q302	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q303	8-729-905-67	TRANSISTOR	2SD1944-K		
Q304	8-729-900-61	TRANSISTOR	DTA114ES		
Q305	8-729-905-67	TRANSISTOR	2SD1944-K		
Q306	8-729-900-89	TRANSISTOR	DTC144ES		
Q307	8-729-921-65	TRANSISTOR	DTC143ES		
Q308	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q309	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q311	8-729-801-84	TRANSISTOR	2SB1013-4		
Q312	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q313	8-729-801-84	TRANSISTOR	2SB1013-4		
Q314	8-729-921-65	TRANSISTOR	DTC143ES		
		< RESISTOR >			
R101	1-249-411-11	CARBON	330	5%	1/4W
R102	1-249-410-11	CARBON	270	5%	1/4W
R103	1-249-424-11	CARBON	3.9K	5%	1/4W
R104	1-249-406-11	CARBON	120	5%	1/4W
R105	1-249-429-11	CARBON	10K	5%	1/4W
R106	1-249-431-11	CARBON	15K	5%	1/4W
R107	1-249-420-11	CARBON	1.8K	5%	1/4W
R108	1-249-414-11	CARBON	560	5%	1/4W
R109	1-249-436-11	CARBON	39K	5%	1/4W
R110	1-249-429-11	CARBON	10K	5%	1/4W
R111	1-249-432-11	CARBON	18K	5%	1/4W
R112	1-249-421-11	CARBON	2.2K	5%	1/4W
R113	1-249-405-11	CARBON	100	5%	1/4W
R114	1-249-422-11	CARBON	2.7K	5%	1/4W
R115	1-247-893-11	CARBON	390K	5%	1/4W
R116	1-249-423-11	CARBON	3.3K	5%	1/4W
R117	1-249-401-11	CARBON	47	5%	1/4W
R118	⚠1-219-162-11	FUSIBLE	3.3	5%	1/4W F
R119	1-249-423-11	CARBON	3.3K	5%	1/4W
R120	1-249-404-00	CARBON	82	5%	1/4W
R121	1-249-414-11	CARBON	560	5%	1/4W
R122	1-249-430-11	CARBON	12K	5%	1/4W
R123	1-249-421-11	CARBON	2.2K	5%	1/4W
R124	1-249-431-11	CARBON	15K	5%	1/4W
R125	1-249-430-11	CARBON	12K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

AUDIO | CD CONTROL | CD LEAF SW

Ref. No.	Part No.	Description			Remark
R126	1-247-834-11	CARBON	1.3K	5% 1/4W	
R127	1-249-431-11	CARBON	15K	5% 1/4W	
R128	1-249-426-11	CARBON	5.6K	5% 1/4W	
R201	1-249-411-11	CARBON	330	5% 1/4W	
R202	1-249-410-11	CARBON	270	5% 1/4W	
R203	1-249-424-11	CARBON	3.9K	5% 1/4W	
R204	1-249-406-11	CARBON	120	5% 1/4W	
R205	1-249-429-11	CARBON	10K	5% 1/4W	
R206	1-249-431-11	CARBON	15K	5% 1/4W	
R207	1-249-420-11	CARBON	1.8K	5% 1/4W	
R208	1-249-414-11	CARBON	560	5% 1/4W	
R209	1-249-436-11	CARBON	39K	5% 1/4W	
R210	1-249-429-11	CARBON	10K	5% 1/4W	
R211	1-249-432-11	CARBON	18K	5% 1/4W	
R212	1-249-421-11	CARBON	2.2K	5% 1/4W	
R213	1-249-405-11	CARBON	100	5% 1/4W	
R214	1-249-422-11	CARBON	2.7K	5% 1/4W	
R215	1-247-893-11	CARBON	390K	5% 1/4W	
R216	1-249-423-11	CARBON	3.3K	5% 1/4W	
R217	1-249-401-11	CARBON	47	5% 1/4W	
R218	⚠1-219-162-11	FUSIBLE	3.3	5% 1/4W	F
R219	1-249-423-11	CARBON	3.3K	5% 1/4W	
R220	1-249-404-00	CARBON	82	5% 1/4W	
R221	1-249-414-11	CARBON	560	5% 1/4W	
R222	1-249-430-11	CARBON	12K	5% 1/4W	
R223	1-249-421-11	CARBON	2.2K	5% 1/4W	
R224	1-249-431-11	CARBON	15K	5% 1/4W	
R225	1-249-430-11	CARBON	12K	5% 1/4W	
R226	1-247-834-11	CARBON	1.3K	5% 1/4W	
R227	1-249-431-11	CARBON	15K	5% 1/4W	
R228	1-249-426-11	CARBON	5.6K	5% 1/4W	
R301	1-249-421-11	CARBON	2.2K	5% 1/4W	
R302	1-249-411-11	CARBON	330	5% 1/4W	
R303	1-247-891-00	CARBON	330K	5% 1/4W	
R304	1-249-421-11	CARBON	2.2K	5% 1/4W	
R305	1-249-409-11	CARBON	220	5% 1/4W	
R306	1-249-437-11	CARBON	47K	5% 1/4W	
R307	1-247-903-00	CARBON	1M	5% 1/4W	
R309	1-249-405-11	CARBON	100	5% 1/4W	
R310	1-249-405-11	CARBON	100	5% 1/4W	
R312	⚠1-219-149-11	FUSIBLE	1	5% 1/4W	F
R313	⚠1-219-149-11	FUSIBLE	1	5% 1/4W	F
R314	1-249-417-11	CARBON	1K	5% 1/4W	
R315	1-249-411-11	CARBON	330	5% 1/4W	
R316	1-249-425-11	CARBON	4.7K	5% 1/4W	
R317	1-249-437-11	CARBON	47K	5% 1/4W	
R318	1-249-425-11	CARBON	4.7K	5% 1/4W	
R319	1-249-425-11	CARBON	4.7K	5% 1/4W	
R320	1-249-393-11	CARBON	10	5% 1/4W	
R321	1-247-816-11	CARBON	240	5% 1/4W	
R323	1-249-432-11	CARBON	18K	5% 1/4W	
R325	1-249-425-11	CARBON	4.7K	5% 1/4W	
R326	1-249-417-11	CARBON	1K	5% 1/4W	
R327	1-249-437-11	CARBON	47K	5% 1/4W	
R328	1-249-407-11	CARBON	150	5% 1/4W	
R329	1-249-416-11	CARBON	820	5% 1/4W	
R330	1-247-816-11	CARBON	240	5% 1/4W	
R332	1-249-435-11	CARBON	33K	5% 1/4W	

< VARIABLE RESISTOR >

RV301	1-241-574-11	RES, VAR, CARBON 50K/50K (VOLUME)
RV302	1-241-575-11	RES, VAR, CARBON 50K/50K (TONE)

< SWITCH >

S301	1-570-933-11	SWITCH, LEVER SLIDE (FUNCTION)
S302	1-572-235-11	SWITCH, SLIDE (RECORD/PLAYBACK)
S303	1-571-807-11	SWITCH, SLIDE (FM MODE/ISS)
S304	1-572-833-11	SWITCH, PUSH (1 KEY) (BASS BOOST)

< TRANSFORMER >

T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR

****

* 1-639-504-11 CD CONTROL BOARD

****

< CONNECTOR >

CN801	1-563-630-11	CONNECTOR, FLEXIBLE 27P

< LIQUID CRYSTAL DISPLAY >

LCD801	1-808-930-11	DISPLAY PANEL, LIQUID CRYSTAL

< SWITCH >

S801	1-553-856-00	SWITCH, KEY BOARD (PLAY)
S802	1-553-856-00	SWITCH, KEY BOARD (STOP)
S803	1-553-856-00	SWITCH, KEY BOARD (AMS SEARCH REW)
S804	1-553-856-00	SWITCH, KEY BOARD (AMS SEARCH FF)
S805	1-553-856-00	SWITCH, KEY BOARD (PAUSE)
S806	1-553-856-00	SWITCH, KEY BOARD (PLAY MODE)
S807	1-553-856-00	SWITCH, KEY BOARD (DISPLAY/ENTER)

****

* 1-639-506-11 CD LEAF SW BOARD

****

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

CD LEAF SW | CD MAIN

Ref.No.	Part No.	Description			Remark
		< CONNECTOR >			
CN707	* 1-506-998-11	PIN, CONNECTOR (PC BOARD) 2P			
		< SWITCH >			
S704	1-570-013-11	SWITCH, LEAF (OPEN/CLOSE)			
**********					
	* A-3275-084-A	CD MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C700	1-136-173-00	FILM	0.47uF	5%	50V
C701	1-124-443-00	ELECT	100uF	20%	10V
C702	1-124-034-51	ELECT	33uF	20%	16V
C703	1-124-034-51	ELECT	33uF	20%	16V
C704	1-136-165-00	FILM	0.1uF	5%	50V
C705	1-136-165-00	FILM	0.1uF	5%	50V
C706	1-124-907-11	ELECT	10uF	20%	50V
C707	1-131-368-00	TANTALUM	3.3uF	10%	16V
C708	1-130-489-00	MYLAR	0.033uF	5%	50V
C709	1-123-382-00	ELECT	3.3uF	20%	100V
C711	1-130-493-00	MYLAR	0.068uF	5%	50V
C712	1-124-477-11	ELECT	47uF	20%	25V
C713	1-162-851-11	CERAMIC	0.1uF		16V
C714	1-162-215-31	CERAMIC	47PF	5%	50V
C716	1-130-489-00	MYLAR	0.033uF	5%	50V
C717	1-124-477-11	ELECT	47uF	20%	25V
C718	1-161-379-00	CERAMIC	0.01uF	20%	25V
C719	1-130-489-00	MYLAR	0.033uF	5%	50V
C720	1-130-475-00	MYLAR	0.0022uF	5%	50V
C721	1-161-494-00	CERAMIC	0.022uF		25V
C722	1-161-379-00	CERAMIC	0.01uF	20%	25V
C723	1-161-379-00	CERAMIC	0.01uF	20%	25V
C724	1-130-489-00	MYLAR	0.033uF	5%	50V
C725	1-136-165-00	FILM	0.1uF	5%	50V
C726	1-162-294-31	CERAMIC	0.001uF	10%	50V
C727	1-130-491-00	MYLAR	0.047uF	5%	50V
C728	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C729	1-136-173-00	FILM	0.47uF	5%	50V
C730	1-161-379-00	CERAMIC	0.01uF	20%	25V
C731	1-102-942-00	CERAMIC	5.0PF	+-0.5PF	50V
C732	1-102-942-00	CERAMIC	5.0PF	+-0.5PF	50V
C733	1-124-902-00	ELECT	0.47uF	20%	50V
C734	1-124-907-11	ELECT	10uF	20%	50V
C735	1-124-034-51	ELECT	33uF	20%	16V
C736	1-124-927-11	ELECT	4.7uF	20%	100V

Ref.No.	Part No.	Description			Remark
C737	1-162-285-31	CERAMIC	180PF	10%	50V
C744	1-161-379-00	CERAMIC	0.01uF	20%	25V
C745	1-124-034-51	ELECT	33uF	20%	16V
C746	1-124-927-11	ELECT	4.7uF	20%	100V
C747	1-162-285-31	CERAMIC	180PF	10%	50V
C752	1-161-377-00	CERAMIC	0.0047uF	30%	16V
C754	1-162-851-11	CERAMIC	0.1uF		16V
C755	1-162-290-31	CERAMIC	470PF	10%	50V
C756	1-161-379-00	CERAMIC	0.01uF	20%	25V
C757	1-136-173-00	FILM	0.47uF	5%	50V
C758	1-162-851-11	CERAMIC	0.1uF		16V
C759	1-162-294-31	CERAMIC	0.001uF	10%	50V
C760	1-162-851-11	CERAMIC	0.1uF		16V
C761	1-124-442-00	ELECT	330uF	20%	6.3V
C762	1-124-473-11	ELECT	1000uF	20%	10V
C763	1-162-294-31	CERAMIC	0.001uF	10%	50V
C770	1-124-477-11	ELECT	47uF	20%	25V
C771	1-162-294-31	CERAMIC	0.001uF	10%	50V
C772	1-130-484-00	MYLAR	0.012uF	5%	50V
C773	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C774	1-130-491-00	MYLAR	0.047uF	5%	50V
C801	1-124-034-51	ELECT	33uF	20%	16V
C802	1-124-902-00	ELECT	0.47uF	20%	50V
C803	1-161-379-00	CERAMIC	0.01uF	20%	25V
C804	1-136-169-00	FILM	0.22uF	5%	50V
C806	1-161-379-00	CERAMIC	0.01uF	20%	25V
		< CONNECTOR >			
CN701	* 1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
CN702	* 1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
CN703	* 1-566-003-11	PIN, CONNECTOR (PC BOARD) 6P			
CN704	* 1-566-003-11	PIN, CONNECTOR (PC BOARD) 6P			
CN705	* 1-506-999-11	PIN, CONNECTOR (PC BOARD) 3P			
CN709	* 1-563-604-11	CONNECTOR, FLEXIBLE 27P			
		< DIODE >			
D701	8-719-911-19	DIODE 1SS119			
D704	8-719-911-19	DIODE 1SS119			
D705	8-719-911-19	DIODE 1SS119			
		< IC >			
IC701	8-752-039-03	IC CXA1421M			
IC702	8-752-050-82	IC CXA1372Q			
IC703	8-752-337-26	IC CXD2500AQ			
IC704	8-759-148-30	IC uPD6376GS			
IC705	8-759-503-98	IC SM5840DS			
IC706	8-759-518-59	IC BA6296FP			
IC801	8-752-830-87	IC CXP5084H-636Q			

CD MAIN **CD MOTOR** **MD**

Ref. No.	Part No.	Description				Remark
IC802	8-759-971-12	IC PST529E				
		< COIL >				
L701	1-410-509-11	INDUCTOR	10uH			
		< TRANSISTOR >				
Q701	8-729-801-82	TRANSISTOR	2SB1013-2			
Q702	8-729-900-63	TRANSISTOR	DTA124ES			
Q703	8-729-904-39	TRANSISTOR	DTC114TS			
Q704	8-729-902-80	TRANSISTOR	DTA114YS			
Q731	8-729-900-74	TRANSISTOR	DTC143TS			
Q741	8-729-900-74	TRANSISTOR	DTC143TS			
Q801	8-729-900-63	TRANSISTOR	DTA124ES			
Q802	8-729-900-89	TRANSISTOR	DTC144ES			
		< RESISTOR >				
R700	1-247-806-11	CARBON	91	5%	1/4W	
R701	1-249-397-11	CARBON	22	5%	1/4W	
R702	1-249-433-11	CARBON	22K	5%	1/4W	
R705	1-249-441-11	CARBON	100K	5%	1/4W	
R706	1-249-438-11	CARBON	56K	5%	1/4W	
R707	1-247-885-00	CARBON	180K	5%	1/4W	
R708	1-249-432-11	CARBON	18K	5%	1/4W	
R709	1-249-437-11	CARBON	47K	5%	1/4W	
R710	1-249-417-11	CARBON	1K	5%	1/4W	
R711	1-247-896-11	CARBON	510K	5%	1/4W	
R712	1-247-883-00	CARBON	150K	5%	1/4W	
R713	1-249-429-11	CARBON	10K	5%	1/4W	
R714	1-249-417-11	CARBON	1K	5%	1/4W	
R715	1-247-887-00	CARBON	220K	5%	1/4W	
R716	1-249-429-11	CARBON	10K	5%	1/4W	
R717	1-249-423-11	CARBON	3.3K	5%	1/4W	
R718	1-247-881-00	CARBON	120K	5%	1/4W	
R719	1-249-423-11	CARBON	3.3K	5%	1/4W	
R720	1-247-856-00	CARBON	11K	5%	1/4W	
R721	1-249-441-11	CARBON	100K	5%	1/4W	
R722	1-249-441-11	CARBON	100K	5%	1/4W	
R723	1-249-441-11	CARBON	100K	5%	1/4W	
R724	1-249-417-11	CARBON	1K	5%	1/4W	
R725	1-249-433-11	CARBON	22K	5%	1/4W	
R726	1-249-417-11	CARBON	1K	5%	1/4W	
R727	1-249-441-11	CARBON	100K	5%	1/4W	
R728	1-249-437-11	CARBON	47K	5%	1/4W	
R729	1-249-417-11	CARBON	1K	5%	1/4W	
R730	1-249-417-11	CARBON	1K	5%	1/4W	
R731	1-249-429-11	CARBON	10K	5%	1/4W	
R732	1-249-429-11	CARBON	10K	5%	1/4W	
R737	1-247-883-00	CARBON	150K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R741	1-249-429-11	CARBON	10K	5%	1/4W	
R742	1-249-429-11	CARBON	10K	5%	1/4W	
R761	1-249-435-11	CARBON	33K	5%	1/4W	
R762	1-249-429-11	CARBON	10K	5%	1/4W	
R763	1-249-429-11	CARBON	10K	5%	1/4W	
R764	1-249-435-11	CARBON	33K	5%	1/4W	
R765	1-247-838-00	CARBON	2K	5%	1/4W	
R766	1-249-437-11	CARBON	47K	5%	1/4W	
R767	1-249-433-11	CARBON	22K	5%	1/4W	
R769	⚠1-212-861-11	FUSIBLE	15	5%	1/4W	F
R801	1-249-405-11	CARBON	100	5%	1/4W	
R802	1-249-405-11	CARBON	100	5%	1/4W	
R803	1-249-437-11	CARBON	47K	5%	1/4W	
R804	1-249-435-11	CARBON	33K	5%	1/4W	
R805	1-249-435-11	CARBON	33K	5%	1/4W	
R806	1-249-435-11	CARBON	33K	5%	1/4W	
R807	1-249-441-11	CARBON	100K	5%	1/4W	
R809	1-249-437-11	CARBON	47K	5%	1/4W	
R811	1-249-441-11	CARBON	100K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV701	1-241-040-21	RES, ADJ, CARBON 22K				
RV702	1-237-288-11	RES, ADJ, CARBON 47K				
RV703	1-241-040-21	RES, ADJ, CARBON 22K				
RV704	1-241-040-21	RES, ADJ, CARBON 22K				
		< CRYSTAL >				
X801	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)				
XF701	1-579-345-11	VIBRATOR, CERAMIC (16.934MHz)				

****

* 1-639-505-11 CD MOTOR BOARD
****

* 3-368-054-01 PIN (UX-50), GROUND

< CONNECTOR >

CN706 * 1-566-003-11 PIN, CONNECTOR (PC BOARD) 6P

< SWITCH >

S703 1-571-936-11 SWITCH, LEAF (LIMIT)

****

* 1-639-501-11 MD BOARD
****

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MD POWER TUNER

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C601	1-124-120-11	ELECT	220uF	20%	25V
C602	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< SWITCH >			
S601	1-571-330-21	SWITCH, LEAF (MOTOR POWER)			
**********					
*	1-640-789-11	POWER BOARD			
		**********			
	1-533-233-11	HOLDER, FUSE			
		< CAPACITOR >			
C901	1-101-005-00	CERAMIC	22000PF		50V
C902	1-101-005-00	CERAMIC	22000PF		50V
C903	1-101-005-00	CERAMIC	22000PF		50V
C904	1-101-005-00	CERAMIC	22000PF		50V
C905	1-162-562-11	CERAMIC	0.22uF		16V
		< CONNECTOR >			
CNJ901	⚠1-526-838-11	INLET, AC IN 2P (~AC IN)			
		< DIODE >			
D901	⚠8-719-945-59	DIODE	DSA3A4		
D902	⚠8-719-945-59	DIODE	DSA3A4		
D903	⚠8-719-945-59	DIODE	DSA3A4		
D904	⚠8-719-945-59	DIODE	DSA3A4		
		< FUSE >			
F901	⚠1-532-286-00	FUSE (T2.5A 250V) (UK)			
F901	⚠1-576-009-11	FUSE (T2.5A 250V) (AEP, IT)			
		< LINE FILTER >			
LF901	⚠1-424-150-11	TRANSFORMER, LINE FILTER			
		< TRANSFORMER >			
T901	⚠1-450-651-11	TRANSFORMER, POWER (UK)			
T901	⚠1-450-653-11	TRANSFORMER, POWER (AEP, UK)			
**********					
*	A-3261-728-A	TUNER BOARD, COMPLETE (AEP, UK)			
		**********			
*	A-3261-846-A	TUNER BOARD, COMPLETE (IT)			
		**********			

Ref. No.	Part No.	Description			Remark
*	3-368-490-01	GEAR, VC			
*	3-368-520-01	CHASSIS, TU			
	7-621-775-20	SCREW +B 2.6X5			
	7-685-648-79	SCREW, TAPPING +BV 3X12			
		< CAPACITOR >			
C3	1-161-379-00	CERAMIC	0.01uF	20%	25V
C4	1-124-907-11	ELECT	10uF	20%	50V
C5	1-161-379-00	CERAMIC	0.01uF	20%	25V
C7	1-164-056-11	CERAMIC	27PF	5%	50V
C8	1-102-961-00	CERAMIC	27PF	5%	50V
C10	1-164-012-11	CERAMIC	3PF	0.25PF	50V
C11	1-161-379-00	CERAMIC	0.01uF	20%	25V
C14	1-161-379-00	CERAMIC	0.01uF	20%	25V
C15	1-124-927-11	ELECT	4.7uF	20%	100V
C16	1-124-903-11	ELECT	1uF	20%	50V
C17	1-124-126-00	ELECT	47uF	20%	10V
C18	1-124-126-00	ELECT	47uF	20%	10V
C19	1-161-379-00	CERAMIC	0.01uF	20%	25V
C20	1-124-903-11	ELECT	1uF	20%	50V
C21	1-124-925-11	ELECT	2.2uF	20%	100V
C22	1-124-443-00	ELECT	100uF	20%	10V
C23	1-124-902-00	ELECT	0.47uF	20%	50V
C24	1-124-927-11	ELECT	4.7uF	20%	100V
C27	1-161-050-00	CERAMIC	0.0082uF	10%	16V
C28	1-161-050-00	CERAMIC	0.0082uF	10%	16V
C29	1-162-851-11	CERAMIC	0.1uF	10%	16V
C30	1-162-851-11	CERAMIC	0.1uF	10%	16V
C32	1-102-943-00	CERAMIC	6.0PF	+-0.5PF	50V
C33	1-164-066-11	CERAMIC	68PF	5%	50V
C38	1-136-010-00	FILM	200PF	5%	50V
C39	1-102-960-00	CERAMIC	24PF	5%	50V
C40	1-110-342-11	FILM	390PF	5%	50V
C41	1-136-012-11	FILM	300PF	5%	50V
C46	1-124-903-11	ELECT	1uF	20%	50V
C47	1-124-902-00	ELECT	0.47uF	20%	50V
C48	1-124-902-00	ELECT	0.47uF	20%	50V
		< CERAMIC FILTER >			
CF1	1-577-327-81	FILTER, CERAMIC			
CF2	1-577-327-81	FILTER, CERAMIC			
CF3	1-577-327-81	FILTER, CERAMIC			
		< ENCAPSULATED COMPONENT >			
CP1	1-236-079-11	ENCAPSULATED COMPONENT			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		< TRIMMER >	
CT1-4 CV1-4	1-151-637-11	CAP, VARIABLE	
CT7	1-141-245-00	CAP, TRIMMER 30PF	
CT8	1-141-245-00	CAP, TRIMMER 30PF	
		< DIODE >	
D1	8-719-911-19	DIODE 1SS119	
D2	8-719-911-19	DIODE 1SS119	
D5	8-719-911-19	DIODE 1SS119	
D6	8-719-911-19	DIODE 1SS119	
D7	8-719-911-19	DIODE 1SS119	
D8	8-719-911-19	DIODE 1SS119	
D11	8-719-918-76	LED GL-3PR9 (FM ST)	
		< FILTER >	
FL1	1-236-022-11	FILTER, BAND PASS	
		< IC >	
IC1	8-752-050-20	IC CXA1238S	
		< COIL >	
L1	* 1-422-180-11	COIL, AIR-CORE (RF)	
L2	1-406-161-11	COIL, FM OSCILLATOR (AEP, UK)	
L2	1-459-815-11	COIL (WITH CORE) (IT)	
L3 L7	1-402-579-11	ANTENNA, FERROTE-ROD (LW/MW)	
L4	1-406-253-11	COIL (OSC)	
L8	1-406-252-11	COIL (OSC)	
L10	1-410-335-11	INDUCTOR 150uH	
		< TRANSISTOR >	
Q1	8-729-904-36	TRANSISTOR DTC114YS	
Q3	8-729-904-36	TRANSISTOR DTC114YS	
Q4	8-729-904-36	TRANSISTOR DTC114YS	
Q5	8-729-904-36	TRANSISTOR DTC114YS	
		< RESISTOR >	
R2	1-249-412-11	CARBON 390 5% 1/4W	
R3	1-249-421-11	CARBON 2.2K 5% 1/4W	
R4	1-249-441-11	CARBON 100K 5% 1/4W	
R5	1-249-423-11	CARBON 3.3K 5% 1/4W	
R6	1-249-441-11	CARBON 100K 5% 1/4W	
R7	1-247-887-00	CARBON 220K 5% 1/4W	
R8	1-247-887-00	CARBON 220K 5% 1/4W	
R9	1-247-887-00	CARBON 220K 5% 1/4W	
R10	1-249-397-11	CARBON 22 5% 1/4W	
R11	1-249-430-11	CARBON 12K 5% 1/4W	
R12	1-249-430-11	CARBON 12K 5% 1/4W	
R13	1-249-410-11	CARBON 270 5% 1/4W	
R14	1-249-429-11	CARBON 10K 5% 1/4W	
R15	1-247-887-00	CARBON 220K 5% 1/4W	
R16	1-247-887-00	CARBON 220K 5% 1/4W	
R17	1-249-421-11	CARBON 2.2K 5% 1/4W	
R19	1-249-415-11	CARBON 680 5% 1/4W	
R20	1-249-423-11	CARBON 3.3K 5% 1/4W	
R23	1-249-429-11	CARBON 10K 5% 1/4W	
		< VARIABLE RESISTOR >	
RV1	1-238-601-11	RES, ADJ, CARBON 22K	
		< SWITCH >	
S1	1-572-880-11	SWITCH (BAND)	

****

MISCELLANEOUS
****

102	1-452-531-11	MAGNET
124	* 1-690-171-11	CORD, PARALLEL (27 CORE) (FFC)
ANT1	1-501-480-11	ANTENNA, TERESCOPIC
HE601	1-543-525-11	HEAD, MAGNETIC (ERASE)
HRP601	1-543-628-11	HEAD, MAGNETIC (REC/PB)
M601	X-4919-956-1	MOTOR ASSY
M701	X-2625-132-1	MOTOR GEAR ASSY (MB) (SLED)
M702	X-2625-133-2	MOTOR ASSY, SPINDLE
SP801	1-544-154-11	SPEAKER
SP802	1-544-154-11	SPEAKER

****

ACCESSORIES & PACKING MATERIALS
****

	1-558-032-11	CORD, POWER (UK)
	1-575-131-11	CORD, POWER (AEP, IT)
*	3-369-796-01	INDIVIDUAL CARTON
*	3-369-799-01	CUSHION (L)
*	3-369-800-01	CUSHION (R)
	3-753-557-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, GERMAN) (AEP, UK)
	3-753-557-41	MANUAL, INSTRUCTION (DUTCH, SWEDISH, ITALIAN, PORTUGUESE) (AEP, IT)

****

HARDWARE LIST

Ref. No.	Part No.	Description	Remark
#1	7-621-775-20	SCREW +B 2.6X5	
#2	7-685-648-79	SCREW, TAPPING +BV 3X12	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#4	7-682-549-04	SCREW +B 3X10	
#5	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
#6	7-621-772-00	SCREW +B 2X3	
#7	7-621-255-15	SCREW +P 2X3	

9-956-646-11

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